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FAILURE IN THE MARGINS:
AERIAL RESUPPLY AT DIÊN BIÊN PHU

By

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The battle of Diên Biên Phu is one of the most studied engagements of the twentieth century. Its outcome signaled a significant step in the decline of European hegemony over colonial holdings, and marked a watershed event in the establishment of a Communist foothold in Southeast Asia. Military histories on the battle tend to be in agreement as to the reasons for French failure and Viêtminh victory, with logistics usually appearing toward the top of the list. On the one hand, the Viêtminh are lauded for their successful mobilization of massive proportions, while on the other, the French are chided for the failure of their technologically superior aerial resupply effort. But this orthodoxy is in need of refinement. To be sure, the leading cause of French defeat was logistical bankruptcy, but not in matters of strict *quantity*, but rather in the *quality* of the aerial delivery. To be sure, the aerial resupply effort succeeded in succoring the French garrison during the critical fifty-six days of the battle; but as the Viêtminh ground advance shrunk the drop zones, with antiaircraft fire driving the aerial delivery to higher

altitudes, more and more drops fell into the hands of the enemy—an enemy who was starved of ammunition and on the verge of collapse without these misdropped supplies. Conventional wisdom to the contrary, the Battle of Diên Biên Phu was not over before it started.

Following World War II, military theorists grappled to produce sound airpower doctrine by plotting the plethora of data-points involving a weapon undergoing growth of exponential proportions. Aerial delivery was among the least understood spheres of airpower, and as a result, the lack of understanding and sound doctrine opened the door for potential catastrophe. The French military establishment in Vietnam was not immune to this nescience, and as a result built a fortress hundreds of miles from their power-base, completely dependant on airlift without the tools to successfully carry out the ensuing campaign. Ironically it was the Viêtminh, bereft of an air force of any sort, who understood the vulnerabilities of the French air-bridge, and sought to both cripple and exploit this lifeline.

FAILURE IN THE MARGINS:
AERIAL RESUPPLY AT DIÊN BIÊN PHU

A Thesis

Presented in Partial Fulfillment of the Requirements for

the Degree Master of Arts in the

Graduate School of The Ohio State University

By

John David Plating, B.S.

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The Ohio State University
2000

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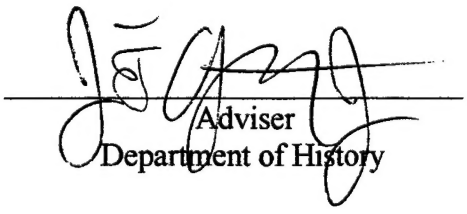

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ABSTRACT

The battle of Diên Biên Phu is one of the most studied engagements of the twentieth century. Its outcome signaled a significant step in the decline of European hegemony over colonial holdings, and marked a watershed event in the establishment of a Communist foothold in Southeast Asia. Military histories on the battle tend to be in agreement as to the reasons for French failure and Viêtminh victory, with logistics usually appearing toward the top of the list. On the one hand, the Viêtminh are lauded for their successful mobilization of massive proportions, while on the other, the French are chided for the failure of their technologically superior aerial resupply effort. But this orthodoxy is in need of refinement. To be sure, the leading cause of French defeat was logistical bankruptcy, but not in matters of strict *quantity*, but rather in the *quality* of the aerial delivery. To be sure, the aerial resupply effort succeeded in succoring the French garrison during the critical fifty-six days of the battle; but as the Viêtminh ground advance shrunk the drop zones, with antiaircraft fire driving the aerial delivery to higher altitudes, more and more drops fell into the hands of the enemy—an enemy who was starved of ammunition and on the verge of collapse without these misdropped supplies. Conventional wisdom to the contrary, the Battle of Diên Biên Phu was not over before it started.

Following World War II, military theorists grappled to produce sound airpower doctrine by plotting the plethora of data-points involving a weapon undergoing growth of exponential proportions. Aerial delivery was among the least understood spheres of airpower, and as a result, the lack of understanding and sound doctrine opened the door for potential catastrophe. The French military establishment in Vietnam was not immune to this nescience, and as a result built a fortress hundreds of miles from their power-base, completely dependant on airlift without the tools to successfully carry out the ensuing campaign. Ironically it was the Viêtminh, bereft of an air force of any sort, who understood the vulnerabilities of the French air-bridge, and sought to both cripple and exploit this lifeline.

Dedicated to Paula

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INTRODUCTION

"The mistakes are all waiting to be made."
Chessmaster Savielly Grigorievitch Tartakower
(1887-1956) on the game's opening position

The battle of Diên Biên Phu is one of the most studied engagements of the twentieth century, with a variety of factors pushing this battle to the fore. Aside from Japanese victories during the Russo-Japanese War and World War II, it marked the first major defeat of a Western power by an Asian army in recent times. It also signaled a significant step in the decline of European hegemony over colonial holdings. Furthermore, it was a watershed event in the establishment of a Communist foothold in Southeast Asia. Lastly, it signaled the passing of the baton of the Vietnam problem from France to the United States. This last reason makes the battle particularly noteworthy to American historians: Diên Biên Phu marked the end of an eight-year war for France and the beginning of a twenty-year war for the US, a war that has left enduring scars.[1]

Note: I have attempted to use the Vietnamese spelling of all names and places with one exception. I have truncated the name "Viêt Nam" to the common English spelling "Vietnam." In matters of individual proper names, I have spelled the entire name when introducing the character (e.g. Ngô Dình Diêm, where family name is first and the given name is last), and then referred to the individual thence by his or her given name. The exception here comes with prominent figures whose names are stated with a familiar prefix, such as "Uncle Hô."

[1] Referring to US involvement as a twenty-year endeavor includes diplomatic, political, and military affairs. In October 1954, three months after the Geneva Accords were signed ending the French phase of the war, President Eisenhower wrote South Vietnam's Premier Ngô Dình Diêm promising $100 million in US military aid. The US military commitment began in earnest in the 1960s, and although a formal truce was signed in 1973, the US remained heavily involved in Vietnam until the fall of Saigon in April 1975.

A literature search of scholarly works on Diên Biên Phu lists over 250 titles in English, French, Vietnamese, and Chinese—this on a single battle that took place fifty years ago.[2] Military histories on the battle tend to be in agreement as to the reasons for French failure and Viêtminh victory, with logistics usually appearing toward the top of the list. On the one hand, the Viêtminh are lauded for their successful mobilization of massive proportions, while on the other, the French are chided for the failure of their technologically superior effort to supply via air-bridge. Yet with the preponderance of scholarship on the battle, no work has yet to be published that specifically analyzes the failure of aerial resupply during the battle. If the leading cause of French defeat was logistical bankruptcy, then surely this is a matter worthy of attention. Holding to these premises, it is the goal of this work to attempt to fill that gap in the record.

There are two general themes that flow through the course of this thesis. The first is that the battle was not over before it began. Many analysts, with the advantage of hindsight, have been tempted to treat the loser with a patronizing air in conjecturing how it was that the beaten made such faulty decisions. And although such a query may be warranted in the case of Diên Biên Phu, it is my contention that the battle was much closer than is usually portrayed. A steady flow of men, ammunition, and supplies to the besieged fortress would have—or so I shall argue—sustained the garrison until the Viêtminh eventually collapsed.

The second theme is related to the first and concerns the broad issue of airpower incomprehensibility. Growing pains always seem to arise with the incorporation of new

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[2] Conducted by searching the *WorldCat* OCLC catalogue's forty million titles on 17 Aug 2000.

technologies into society. The crucible of war accentuates these pains, as conflict accelerates the pace of weapons development and the doctrines of employment. The entire introduction of warfare to the third dimension has been at best a grappling effort. Strategic bombing has garnered the most study, with airpower advocates and detractors correspondingly exalting or minimizing the impact of the Allied bombing effort of World War II. But even the Combined Bomber Offensive, bereft of fighter escorts, posted appalling losses in 1943, which threatened its extinction unless a significant alteration in doctrine was made. While airlift has not been about the direct employment of weapons, there has been no less a struggle to reconcile the appropriate use of this mode of supply. In the development of tactical airlift doctrine, assumptions were made early on that airlift was a panacea for failed surface transport. In some cases, combined-forces commanders used airlift experimentally. In other cases, it was called upon to make amends for poor planning. And in other unfortunate situations, it was asked to accomplish the near impossible: support ground forces in the face of formidable enemy air defenses, dropping supplies with pin-point accuracy on shrinking drop zones. Diên Biên Phu is an example of such a case.[3]

[3]For an overall history of the battle, I have relied heavily on the somewhat dated, yet unsurpassed works of Bernard Fall and Jules Roy. My cornerstone on broad matters concerning the entire Vietnam War is Phillip Davidson's lucid distillation, *Vietnam at War*. Works published recently on the role of the Chinese Military Aid Group, as well as Douglas Porch's scholarship on the *Deuxième Bureau* are referenced, as they serve to nuance the battle's standard orthodoxy—but this is not done without critique. US Air Force archival records have been consulted regarding the loan of transport aircraft, as well as William Leary's excellent narrative on the civilian pilots who flew those aircraft. Lastly, I have consulted French sources, to include Jean Pouget's record of the battle, as well as a recently published diary account of the resupply effort by former French Air Force pilot Marc Bertin. The remainder of this story undoubtedly lies in *Service Historique de l'Armée de l'Air* and in the archives in Hanoi.

Airlift as Logistics

Historians have often overlooked the role of logistics in war, in lieu of the more glamorous matters of armed conflict. In 1977, Martin van Creveld stated that "Hundreds of books on strategy and tactics have been written for every one on logistics," and while his *Supplying War* was not the final word on the subject, his assertion still stands true.[4]

Translating logistics to the realm of airpower reveals the same inattention. Air transport is seen as an herbivore among the more exciting carnivores of fighter and bomber aircraft. Air transport has also been eschewed by past scholars of logistics because the deliverable payload was only a fraction of what the ship, the traditional workhorse of war supply, could carry. Even over-land convoy, whether by road or rail, has understandably served to reduce airlift to mere footnote status in the realm of logistics.[5] But as warfare has become an increasingly mobile phenomenon, and as aircraft have become capable of delivering increasingly heavier payloads, airlift deserves another look.

Airlift today is actually a conglomeration of various missions, as the air transport tool has grown from its humble beginnings. At the top of the list is *airborne assault*, perhaps the most popular combat role of airlift since the arrival of airpower. World War II history is replete with cases of airborne assault, as Crete, OVERLORD, and MARKET-GARDEN serve as examples of both the failure and success of this mission.

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[4] Martin van Creveld, *Supplying War: Logistics from Wallenstein to Patton* (Cambridge UP, 1977), p. 231. Van Creveld's work set the agenda for a lively discussion of the topic contained in John Lynn, ed., *Feeding Mars: Logistics in Western Warfare from the Middle Ages to the Present* (Boulder: Westview Press, 1993). Another current handling of logistics is found in Julian Thompson *The Lifeblood of War: Logistics in Armed Conflict* (London: Brassey's, 1991).

[5] See Lynn, pp. 112, 185.

A slight variation of aerial assault replaces the soldier's parachute with an aircraft or glider, as in the Normandy invasion or the insertion of Wingate's *Chindits* in Burma in 1944. Regardless of the means of conveyance from the sky to the ground, the unique capability of airborne assault remains the same—the rapid placement of concentrated forces upon a given point.[6]

A second facet of air transport has been traditionally labeled *strategic airlift*, as it encompasses the mission of long-range heavy resupply. The Luftwaffe's movement of Franco's troops from Morocco to Spain in 1936 at the start of the Spanish Civil War was perhaps the first significant use of this form of transport.[7] The "hump" airlift in the China-Burma-India (CBI) theater of World War II is another example of strategic resupply, as this operation bypassed the Japanese-held Burma Road and delivered 7,000 tons per day by 1945 to an isolated China. If airborne assault and strategic airlift are two methods that involve the insertion of soldiers and supplies into battle, then *medical evacuation*, the exfiltration of wounded from the battlefield, adds a third role to airlift. This mission fully matured during the Korean War, as smaller transports and helicopters removed the wounded from the immediate battle area, and long-range transports made specialty care available to critical cases.[8] Humanitarian relief operations, or *HUMROs*, are a fourth application of airlift, as food and medical supplies are quickly rushed to

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[6] For an even-handed history of paratroop operations, see: Maurice Tugwell, *Airborne To Battle: A History of Airborne Warfare, 1918-1971* (London: Wm. Kimber, 1971).

[7] Dr. John Guilmartin has given air transport its due regard in pointing to this event of historic proportions by Hitler's Condor Legion. See also: Raymond Proctor, *Hitler's Luftwaffe in the Spanish Civil War* (Westport, CN: Greenwood Press, 1983).

[8] William Tunner, *Over the Hump* (Washington, DC: Office of Air Force History, 1985), pp. 244-247.

needy civilians following political upheaval or natural disaster. The famed Berlin Airlift is the benchmark example of this mission. *Aerial resupply*, via airland or airdrop, is the fifth and final role of airlift, and is the focus of this study. This method of air transport has its roots, as with all things aerial, in World War I.

Aerial Resupply in History

In June 1915, an expeditionary force of the Indian Army landed at Basra, in Mesopotamia, with the intention of garnering Arab affections towards the Allies and hostility against the Turks, while seeking to also eliminate any Turkish threat to England's oil supply in the region. Driving up the Tigris River in November, British forces met stiff resistance at Cestiphon, only 22 miles from Baghdad. Retreat ensued, as Major General Charles Townshend led his force back down river to Kut-Al-Amara where he reasoned that his army had enough supplies to make a stand until reinforcements arrived from Basra. Turkish forces surrounded the garrison on 3 December, as Royal Flying Corps (RFC) and Royal Naval Air Service (RNAS) aircraft began airlanding supplies to Townshend's troops.[9] Turkish artillery fire quickly brought an end to landings at Kut, so the pilots adapted and began dropping items—food, mail, and even a seventy-pound milling stone—from 5,000 feet. In March 1916, Turkish forces mauled a relief column, and airdrop remained the sole means of supply. The garrison's 12,000 troops needed 5,000 pounds of rations per day, a formidable feat for the flimsy aircraft;

[9] These aircraft included several BE2Cs, two Short floatplanes, a Voisin, and a Henry Farman.

and by the end of April 1916, Townshend was losing twenty men per day to disease and starvation, forcing his surrender. The airlift ultimately failed, but not before 16,800 pounds of goods were delivered.[10]

The most famous example of aerial resupply in World War II was at Stalingrad. Isolated by Soviet armored columns in November 1942, the German Sixth Army relied exclusively on Göring's Luftwaffe for resupply. After seventy-one days, General Paulus was forced to surrender as Soviet forces tightened the vice on his beleaguered army; but not before the Luftwaffe delivered over 8,350 tons of supplies and evacuated 30,000 wounded soldiers. In the end, the Soviets captured some 91,000 Germans, killing another 150,000 during the course of the battle, as Zhukov's westward advance was set to pick up momentum.[11]

The Korean War was the first conflict that saw the use of an air transport aircraft designed specifically for airdrop, the Fairchild C-119 Flying Boxcar. The C-82 Packet, the Boxcar's predecessor, was envisioned at the start of World War II as a high-capacity airdrop platform was realized, and entered service in sparse numbers at the end of the war. The venerable C-47, however, remanded the mainstay airlift and airdrop aircraft throughout the war, earning a position on Eisenhower's list of the five most valuable pieces of equipment contributing to the Allied victory.[12] Following the war, the C-47

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[10] Forty years later, a single aircraft would be able to deliver this entire amount with one airdrop sortie. See Roderick Grant and Christopher Cole, *But Not In Anger: The RAF in the Transport Role* (London: Ian Allan, Ltd., 1979), pp. 17-19; Murdock Moore, "Mesopotamia: Being the Cradle of Civilization and Airlift," *Airlift/Tanker Quarterly* (Summer 1995): 5-8.

[11] Joel Hayward, *Stopped at Stalingrad: The Luftwaffe and Hitler's Defeat in the East, 1942-1943* (University Press of Kansas, 1998), p. 310.

[12] The four other items were the DUKW, bulldozer, jeep, and two and a half-ton truck. Dwight D. Eisenhower, *Crusade in Europe* (Garden City, NY: Doubleday & Co., Inc., 1948), pp. 163-164.

remained in service, whereas the C-119, with its unique airdrop capability, went into mass production. The premier example of aerial resupply in Korea involved both of these aircraft, as the 1st Marine Division relied solely on airlift during its famous retreat from the Chosin Resevoir at the end of 1950.

Following the Inchon landing in September 1950, UN forces pushed northward to the Yalu River until the Chinese and North Korean counterattack at the end of November. The Chosin Reservoir campaign was the most brutal of the fighting withdrawals, as 15,000 Marines were pitted against an estimated 120,000 enemy soldiers. Combat Cargo, the airlift arm of the US Air Force (USAF) in Korea, employed C-47s and C-119s in the delivery of what would eventually total about 2,000 tons of ammunition and supplies. Additionally, a rudimentary airstrip was built, allowing the smaller C-47 to land and deliver goods as well as evacuate a total 4,600 wounded. The most celebrated delivery during the course of the retreat was a six-section treadway bridge dropped to span a thirty-foot culvert, making way for the division's evacuation to the port of Hamhung.[13]

A common thread that runs through Kut, Stalingrad, and Chosin is the contingency nature of airlift. Aerial resupply was not a planned *modus operandi*, but rather a convenient vehicle to help prevent utter defeat. In this sense, airlift was used as a "fire department," coming to the rescue of ground commanders who either erred in

[13] Roger Lanius, "Korean War Airlift," *Airlift* (Summer 1990): 16-21; Max Hastings, *The Korean War* (London: Michael Joseph, 1987), pp. 191-193.

judgement or were out-numbered by an opponent. In none of the three noted cases was airlift part of the campaign's planning process, but was rather an afterthought. This would change in Vietnam.

The French Expeditionary Force in Vietnam was perhaps the first force to consciously employ pre-planned aerial resupply as the sole means of support for a fixed garrison. The French, with their Vaubanian affinity for stationary warfare, realized the merits of airdrop on the rugged terrain of Vietnam and rightly viewed this form of mobility as a necessary force-multiplier. Siege warfare was nothing new to the French military in Vietnam. The siege of Tuyen-Quan (November 1884 to March 1885) was perhaps "Until Diên Biên Phu... France's most harrowing siege experience in colonial warfare."[14] In 1952, Na San was built as a fortress designed to be entirely dependent on air supply, and succeeded in inflicting tremendous punishment on Viêtminh forces.

Conceptually, the French had keyed into the potential impact of airlift, but did not have an adequate airforce, nor an understanding of the doctrinal nuances to assure victory. Air transport was relegated, as is common practice, to a position in the supporting cast, where fighters and bombers were the primary weapons. But under the *base aèro-terrestre* model, the French failed to realize that the airlifters had become the lead characters, with fighters and bombers relegated to subordinate duties. Furthermore, ground commanders failed to fully recognize the necessity of maintaining a sizeable drop zone, commensurate with the accuracy of contemporary aerial delivery. Ironically, it was the enemy who had no air transport, let alone an air force, who understood the

[14] William Dean, "The Colonial Armies of the French Third Republic: Overseas Formation and Continental Deployment, 1871-1920," diss., Univ. of Chicago, 1999, pp. 243-246.

indispensability of drop zone real estate and formulated strategy accordingly. To be sure, both the French and Viêtminh made many mistakes during the battle, a simple consequence of human fallibility. But in the final analysis, it was the French who had come within an ace of success at Diên Biên Phu, with their ultimate demise rooted in a failure to give due regard to war in the third dimension.

CHAPTER 1

The First Vietnam War and the Road to CASTOR

"Without her Empire, France would today be nothing more than a liberated country. Thanks to her Empire France is a victorious country."
Gaston Monnerville[1]

"Air power is like poker. A second-best hand is like none at all— it will cost you dough and win you nothing."
General George Kenney[2]

On 2 September 1945, the eyes of the world were fixed on Tokyo Bay. There, General Douglas MacArthur presided over the signing of the Japanese surrender aboard the *USS Missouri*, officially ending World War II. Meanwhile, some two thousand miles to the southwest, Hô Chi Minh proclaimed the liberation of Vietnam before a crowd gathered at Hanoi's Ba Dinh Square. His speech loosely quoted portions of the American Declaration of Independence, stating, "We hold truths that all men are created equal, that they are endowed by their Creator with certain unalienable Rights."[3] In retrospect, Hô's proclamation was merely a symbolic gesture of national sovereignty; but one could maintain that on the same day that the century's first thirty years war ended, a "Second

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[1] Monnerville was the President of the Council of the French Republic following World War II. See Clayton, p. 3.

[2] Charles M. Westenhoff, *Military Air Power: The CADRE Digest of Air Power Opinions and Thoughts* (Montgomery, AL: Air University Press, 1990), p. 18.

[3] Harry G. Summers, Jr., *Historical Atlas of the Vietnam War* (Boston: Houghton Mifflin Co., 1995), p. 44. Maj Archimedes Patti of the US Office of Strategic Services (OSS) stood at Hô's side during the event. Patti went even further in sanctioning the speech by arranging a fly-by of US fighters. Hô's rhetoric was undoubtedly an attempt to rally US support for his cause—a fairly reasonable intention given the signals he was getting from his American contacts in Hanoi. See Peter M. Dunn, *The First Vietnam War* (London: C. Hurst & Co., 1985), pp. 44-47.

Thirty Years War" was beginning.[4] Ironically, the events of the day were made complete back in Tokyo; General Philippe Leclerc, the new commander of the French Expeditionary Corps, was present at the surrender—and was exhorted by MacArthur to rush as many troops as possible to Indochina to re-establish French sovereignty.[5]

Following the Japanese statement of surrender on 15 August, British and Chinese Nationalist troops occupied Vietnam—the former in the south and the latter in the north, as delineated by the 16th parallel—in accordance with the terms of the Potsdam Agreement earlier that year. On 21 September, the first contingent of 150 French troops arrived at Tan Son Nhut airport, near Saigon, carried by six C-47 Dakotas of the *Groupe de Marche d'Extreme Orient* (Far East Task Force). A week later, the *Groupement Massu* of the *2e Division Blindée* (2d Armored Division) arrived in Saigon by ship, with Leclerc arriving the following week. Thus began the re-assertion of French colonial hegemony as control was established first in Saigon, then moved north to Hanoi.[6] Negotiations between the French and Viêtminh ensued, as a conciliatory Hô was willing

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[4] This quoted phrase, referring to the French and US wars in Vietnam, was used by CBS corespondent Eric Savareid in a news broadcast on 22 April 1975. See R.E. Dupuy and T.N. Dupuy, *The Harper Encyclopedia of Military History* (New York, 1993), p. 1321, as quoted in Spencer Tucker, *Vietnam* (The University Press of Kentucky, 1999), p. 48. While Savareid's remark referred to the seventeenth century conflict, the comparison also works with a comprehensive view of this century's two world wars.

[5] Dunn, p. 49.

[6] Anthony Clayton's *The Wars of French Decolonization* (London: Longman, 1994) provides an insightful contrast between French and British colonial rule, drawing upon each nation's heritage of law. Britain, in the post-Roman Empire Anglo-Saxon era, developed into a loose confederation of states featuring Common Law and the seeds that would eventually erode royal central power. The French national tradition was similarly influenced by Rome, but never made a break with the *jus gentium*, law for all peoples, concept that maintained that rule and authority emanated outward from a central hub of control. These contrasting views of law and government are further displayed in matters of faith, as Roman Catholicism remained the historic French tradition, while the extreme form of the British heritage was displayed in the Presbyterian form of Protestantism in Scotland and portions of England (pp. 1-2).

Fig. 1.1. General Map of Indochina, 1953. From Jules Roy, *The Battle of Dienbienphu*, p. xxii.

to allow the return of the French in order to rid North Vietnam of its Chinese occupiers. The chances of a political solution evaporated, however, as hard-liners on both sides were unwilling to compromise. On 20 November, the French attacked a junk in Haiphong harbor, suspected of carrying arms to the Viêtminh. Heavy fighting followed as the French issued an ultimatum for the Communist evacuation of the area. The Viêtminh refused, and on 23 November, French warships and tanks bombarded Haiphong "to teach the Viêtminh a good lesson."[7] The French demanded the disarming of the Viêtminh Self

[7] These were the words of the French commander-in-chief, General Jean Eienne Valluy. See Phillippe Devillers and Jean Lacoutre, *End of War: Indochina, 1954*. trans. by Alexander Lieven and Adam Roberts (New York: Praeger, 1969), p. 11, as quoted in Philip B. Davidson, *Vietnam At War, The History: 1946-1975* (Novato, CA: Presidio, 1988), p. 44.

Defense Force in Hanoi, and on 19 December, the Viêtminh issued their reply in the form of a surprise attack. The First Vietnam War had begun in earnest.[8]

L'Armée de l'Air Comes to Vietnam

Airpower was an integral part of the French military machine designed to subdue the rising Viêtminh tide. The first *Armée de l'Air* (French Air Force, or FAF) combat air unit deployed to Vietnam was *Groupe de Chasse 7* (7th Fighter Group, or GC7), arriving in December 1945. Their deployment lacked one key ingredient, however, as they were without their compliment of Supermarine Spitfire Mk 9s; fortunately, a local RAF unit was preparing to re-deploy to England and loaned their twelve Spitfires to the GC7. Twelve Nakajima Oscar fighters, confiscated from the Japanese, were also added to the unit's inventory as the combat arm of the FAF in Vietnam had its humble start.[9]

The value of air transport was recognized early on, as Vietnam was bereft of a reliable system of roads or highways. Even the *Routes Coloniale*, the major roads constructed by the French earlier in the century, were often nothing more than primitive swaths carved out of the land. The traditional mode of transportation in Vietnam was by boat on inland rivers; and although waterways were occasionally exploited by the French, air transport was the only way to quickly move between remote locations.

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[8] Davidson, pp. 44-45.

[9] The French made good use of Oscars (and other Japanese army and naval aircraft), keeping them airworthy with the help of Japanese POWs and parts cannibalized from salvaged wrecks of other aircraft located in boneyards scattered throughout Southeast Asia. The French Spitfires eventually arrived in the spring of 1946. See J. Mesko, *VNAF: The South Vietnamese Airforce, 1945-1975* (Carrollton, TX: Squadron/Signal Publications, 1987), p. 2.

The first FAF transports in Vietnam comprised a group of eighteen C-47 Dakotas stationed at Tan Son Nhut in November 1945.[10] Three months later, sixteen AAC-1 Toucans (French-built Junkers Ju-52 transports) arrived at Bien Hoa airfield near Saigon, adding to the FAF's transport capability. The Toucans had a secondary mission, however; the Spitfires were poor air-to-ground fighters, so the transports were fitted with bomb hard-points under the wings and fuselage, making them true multi-role aircraft. Later, both the AAC-1s and the C-47s were fitted with an apparatus to deliver napalm canisters dropped from the cargo compartment on unsuspecting ground targets.[11] With only a few dozen transports at the beginning of 1946, the FAF immediately saw the need for civilian augmentation, and the first commercial airlines began operating under contract of the military authorities, establishing a pattern that would remain intact for the next eight years.

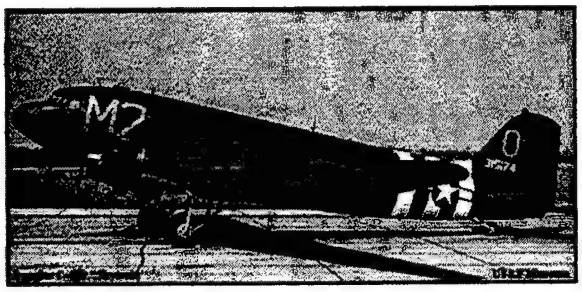

Fig. 1.2. Douglas C-47 Dakota, courtesy of the US Air Force Museum.

Fig. 1.3. Amiot AAC-1 Toucan.

[10] The ubiquitous C-47 Dakota was the militarized version of the Douglas DC-3. Known also as the C-53, R4D, and Skytrain, over 10,000 of these transports were built during World War II. "Dakota" was the moniker assigned to the 2,000-plus C-47s delivered to the Royal Air Force, and for the sake of consistency, is the name referenced in this work.

[11] Thought unverified, J. Mesko asserts that the French intentionally refrained from using aircraft built exclusively by the US, for fear of incurring an American embargo of spare parts as a result of the reassertion of French colonial rule. This is not far-fetched, considering the convoluted position of both the Roosevelt and Truman administrations at the end of World War II—both were clearly opposed to colonialism, but the struggle to settle on a policy towards Indochina was at best a fumbling matter, left unresolved until 1950 (p. 2).

To make efficient use of air assets, the Air Force was divided into northern, central, and southern commands, called *Groupements Aériens Tactiques* (Tactical Air Commands, or GATACs). Each GATAC was commanded by a brigadier, who had full control of all aircraft (to include naval assets) within his sphere of operations. The only exceptions were spotter aircraft, as they belonged to the artillery units they supported. Transport aircraft operated within each GATAC, and fell under the purview of the *Sous-Groupement des Moyens Militaires de Transport Aériens* (S-GMMTA), the regional transport sub-command.

The coordination between air and ground forces was generally good at the operational level. Air Force officers were attached to ground units for a year at a time to act as forward air controllers. Additionally, the GATACs held annual training courses to educate lower-echelon ground commanders on the capabilities—and limitations—of air power. Nevertheless, in the absence of an enemy air threat, the subordination of the air force to the ground forces became a growing source of friction within the French high command as the war progressed.[12]

Operation LEA, 1947

Following the December 1946 Viêtminh assault on French forces in Haiphong, fighting broke out throughout Vietnam with varying degrees of intensity. By March 1947, French forces had cleared the Viêtminh from the urban areas of North Vietnam,

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[12] The sharp distinction of air and ground commanders in French Indochina experienced similar growing pains as other armies and air forces; the subordinated air-arm was often at the mercy of senior ground commanders who sometimes had little knowledge of the limitations of airpower. This, as we will see later, often stretched air assets beyond their capabilities, and degenerated into harsh bickering between senior air and ground commanders. See Michel Dupouy, "Les Rapports Entre Larmée de Terre et L'Armée de l'Air En Indochine: 1946-1954," *Revue Historique des Armées* 4 (1989): 121.

while maintaining tenuous control of the rest of the country. A massive French counter-attack was planned for later that year, with the delay driven by the operational constraints of the coming monsoon rains. The French Commander-in-Chief, General Jean-Étienne Valluy, planned the offensive, labeled Operation LEA, as a combined airborne, amphibious, and overland assault on the Viêtminh concentration in the Viet Bac, the northern Tonkin highlands. And although the operation sought to engage and destroy a sizeable portion of the Viêtminh force, the chief objective of LEA was the capture of two men—Hô Chi Minh and General Võ Nguyên Giáp.

The focus of the attack, consisting of three separate pincers, was the village of Bac Kan. The first pincer was composed of ten battalions deployed from Lang Son to the objective via Cao Bang, with the second pincer containing three battalions moved by naval landing craft up the Clear River. The attack was to be initiated by the third pincer, a force of two parachute battalions delivered by AAC-1s and C-47s supported by Spitfire fighters. LEA began on 7 October, as the parachute assault caught the Viêtminh headquarters at Bac Kan completely by surprise, yet missed their prize as Hô and Giáp eluded capture in a nearby cave. The overland and amphibious assault forces became bogged down enroute to Bac Kan, leaving the *paras*, now surrounded and outnumbered, to fight alone for the next nine days. When the three pincers finally merged on 19 October, the Viêtminh quietly broke contact and escaped to the northwest—thus proving LEA completely fruitless.

Although LEA was a failure for the French, it proved to be an important training ground for Viêtminh General Giáp. It was Giáp's first true test on the battlefield, and he had faired well—but more importantly, he learned well from the French near-success in

his capture—henceforth his headquarters would be dispersed and defended by antiaircraft artillery. The Viêtminh general, devoid of a single airplane, had failed to think in the third dimension, and nearly paid for the mistake with his life. This would be the last such mistake.[13]

***Entre Acte:* US and Chinese Military Aid**

Following the LEA debacle, Giáp withdrew to the Viet Bac, to build his army and hone his doctrine and grand strategy. Meanwhile, the French retreated to their strong military base in the Red River Delta, while abstaining from any offensive operations and maintaining a string of posts on the Sino-Vietnamese border. Military activity sagged to a lull, as the revolving-door leadership of the French Fourth Republic in Paris wrestled to find a solution to matters in Indochina. France was unwilling to concede Vietnamese sovereignty but, by the same token, needed to solicit outside support to fund the war in the face of an economy still crippled from the effects of World War II. The United States was in the best position to lend this support; and with the seizure of Peking by Mao Zedong's Communist forces in January 1949, sufficient impetus emerged for the US to overlook France's colonial proclivities in order to prevent the "dominoes" from falling in Southeast Asia.

The origins of US aid to French Indochina can be traced as far back as 1947, when President Truman issued a plea to Congress to approve military and economic aid to countries threatened by rising totalitarian regimes. The US continued to ponder its position on Vietnam, when Mao's newly-formed People's Republic of China (PRC)

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[13] Davidson, pp. 47-53; Mesko, p. 2-3; Bernard Fall, *Street Without Joy* (Harrisburg, PA: The Stackpole Co., 1967), pp. 28-31.

diplomatically acknowledged Hô's Democratic Republic of Vietnam (DRV) in January 1950. At the same time, the newly formed North Atlantic Treaty Organization (NATO) needed a strong continental anchor—thus, the US felt that it would be able to accomplish two tasks at once in Vietnam. A US-supplied French force in Vietnam could serve to stop the swelling tide of Communism in Asia, alleviating French pressure in the region. This would then allow Paris to fix her efforts on strengthening forces in Europe in the face of an expanding Soviet Union. Thus, On 10 March 1950, President Truman approved $15 million of military aid to French Indochina and Thailand. If the fall of Vietnam to communism was unacceptable, then there was essentially an endless supply of money and material available to France with which to maintain its colonial hegemony—but the United States was not the only nation that began funneling assistance to Vietnam.[14]

Five weeks after Truman's approval of US aid, China began sending its own assistance to Vietnam. On 17 April 1950, the Chinese Communist Party (CCP) Central Military Commission ordered the formation of the Chinese Military Advisory Group (CMAG), providing sufficient advisors to support the Viêtminh headquarters, three divisions of soldiers, and an officer's training school.

Motives for Chinese aid to Vietnam bear some slight similarities with those of the US, to the degree that both regarded the other's political system a threat to their own. With the recent defeat of Chiang Kai-shek's forces, Vietnam was one of the three fronts that the CCP regarded as most threatening (the others being Korea and Taiwan). In

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[14] Ronald Spector, *Advise and Support; The Early Years: The US Army in Vietnam, 1941-1960* (Washington, DC: US Army Center of Military History, 1983), pp. 84-105.

December of 1949, Communist forces solidified their occupation of the Guangxi Province (the region bordering on Vietnam), with some elements of the Nationalist Army fleeing to northern Vietnam. During the outbreak of the Korean War, this remnant of Nationalists served to harass Communist forces in the Guangxi Mountains, forcing Mao to devote considerable resources toward the elimination of these "bandit" factions. Within this framework, the Chinese saw that engaging in an indirect war with the French would strengthen its southeastern border. It is here, however, that the similarities between American and Chinese aid cease.

In 1949, Liu Shaoqui, general secretary of the CCP, visited Moscow seeking Soviet aid for China. During his visit, Stalin informed him that the center of world revolution had shifted eastward from Europe to the USSR, and would later shift to China. The cultivation of this easterly momentum was China's responsibility, and it was within this context that the CCP extended a hand to its "brother communist party" in Vietnam. In addition to the Communist ties, China's historic Sinocentric *Weltanschauung* harbored a paternalistic attitude toward bordering countries. Chinese emperors often regarded Vietnam as being within the Chinese sphere of responsibility and were compelled to dispatch troops to maintain domestic peace within this sphere. In the 1780s, Quing Emperor Quinglong dispatched soldiers to squelch a Vietnamese uprising. A century later, soldiers of the Qing government were again sent to Vietnam to resist French invasion. Certainly, Mao's farsighted view of Chinese history maintained this position, providing further stimulus for Chinese involvement in Vietnam.[15]

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[15] Qiang Zhai, "Transplanting the Chinese Model: Chinese Military Advisers and the First Vietnam War, 1950-1954," *The Journal of Military History* 57 (October 1993): 693-96.

The Border Campaign—1950

With the arrival of 1950, Giáp recognized that the real race in the war was the one between Chinese and American aid—a race in which Giáp saw China as the current leader. Wanting to exploit this edge, he set forth to implement his hundred-page plan to eliminate the French posts on the Sino-Vietnamese border. He had made the most of the military lull of 1948 and 1949, as he built and trained five light infantry divisions (each with 10,000 men), as well as a heavy division with artillery and engineering regiments. An attack on the border posts would give his troops much-needed experience; these detached French outposts were ideal targets, as they could be attacked in a piecemeal fashion, without the fear of a sizeable French counteroffensive—an ideal warm-up for his fledgling army.

Strategically, an eradication of the French posts would benefit Giáp in three ways: First, it would clear the lines of communication with China, allowing an uninhibited flow

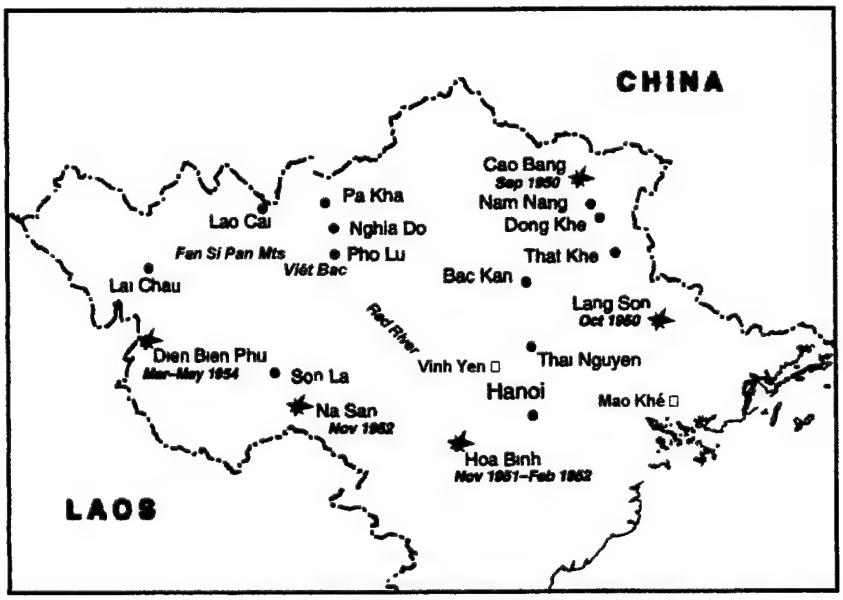

Fig. 1.4. The First Indochina War, 1947-1954. Adapted from Spencer Tucker, *Vietnam*, p. 49.

of supplies for future engagements. Second, it would open his rest-base area from the Viet Bac to the Chinese border. Third, it would remove the threat of a French counter against his rear when he launched his assault on the Red River Delta the following year.

The Border Campaign was actually two sets of engagements separated by the Southwest Monsoon of 1950.[16] The first set of engagements, launched in the spring, were essentially training exercises designed to prepare his troops for the main objective in the fall—the removal of the French from the forts along the *Route Coloniale 4*, or RC4. In February, the Viêtminh 308th Division attacked the northwestern posts of Pho Lu and Nghia Do in sequence. In both cases, French transports delivered paratroop reinforcements to the garrisons: in the case of Pho Lu, the *paras* were dropped twenty miles off target and were unable to save the garrison. In the case of Nghia Do, the French dropped an entire parachute battalion directly on the garrison, repelling the Viêtminh attack, only to abandon the fortress several days later.

Following the attacks on the western posts, Giáp turned to the east, overwhelming the fortress at Dong Khé on the RC4 in May 1950. The victory was short lived, however, as transports dropped the *3e Bataillon Colonial de Commandos Parachutistes* (3d Colonial Commando Parachute Battalion, or 3 BCCP) on the post's drop zone, retaking the fort and forcing a Viêtminh retreat as the year's campaign paused from June through August for the Southwest Monsoon. When Giáp's offensive resumed in September, he effectively neutralized the threat of airborne reinforcements by surrounding Cao Bang

[16] The Southwest and Northeast Monsoons are the two dominant weather features affecting Vietnam. The Southwest Monsoon brings heavy rains into the Mekong Delta from Thailand by mid-May, moving up the coast and hitting the Gulf of Tonkin and Red River Delta. It blows itself out by mid-October, and is replaced by the Northeast Monsoon until the end of December, bringing rain, drizzle, fog

and That Khé on the RC4, while re-attacking Dong Khé. There was simply no possible way for the strained *Armée de l'Air* Transport Command to sustain all three garrisons simultaneously, even with the arrival of American C-47s under the terms of the new aid agreement—and the result was disastrous for the French. When 1950 drew to a close, 6,000 of the 10,000 troops stationed at the border posts had been lost, in addition to tons of ammunition, thirteen howitzers, 450 vehicles, and thousands of gallons of gasoline. It was here that the fatal cracks in the French logistical system began to appear, a weakness that would be overlooked by Giáp—but only for another year.[17]

The Red River Delta Offensive—1951

Invigorated by the success of the Border Campaign, Giáp sought to turn his attention to the Red River Delta. The consensus among the Viêtminh leadership was that the war had entered the last of three stages, where the Viêtminh had reached military parity with the French, and now stood in a position of superiority. This being the case, an all-out offensive was planned to finally eliminate the French presence from Vietnam. Additionally, a more pragmatic reason to attack the area was simply that the Viêtminh struggled with food and manpower shortages; the seizure of the rice-rich Delta would

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and *crachin*, or "spit." These climatological patterns drove military operations in Vietnam, as mid-October to mid-May became the "campaign season" for offensive operations. See Davidson, pp. 37-38.

[17] During the Border Campaign, American aid to Vietnam was on the rise, with Truman ordering an acceleration of this support with the outbreak of the Korean War on 25 June 1950. On 30 June, eight C-47s arrived in Saigon with the first load of military aid, followed by the arrival on 10 August of the transport ship *Steel Rover* that carried enough rifles to arm 15 infantry battalions. The combat aviation requirements began to arrive in October 1950 when forty US Navy F-6F *Hellcat* fighters arrived in Saigon aboard a French carrier. By December of that year, over thirty B-26 bombers were delivered, with ninety F-8F *Bearcat* fighters promised for the spring of 1951. This invigoration of airpower enabled the FAF to double its tactical sortie rate in nine months. See John Prados "Advice Without Consent: The US MAAG in Indochina," *Strategy and Tactics Magazine* 4 (Sep.-Oct. 1984): 42-45; Robert Futrell, *The United States Air Force in Southeast Asia: The Advisory Years* (Washington, DC: Office of Air Force History, 1981), p. 7; Davidson, pp. 75-93; Summers, *Atlas*, pp. 50-51.

allay the food problem, and putting Hô in Hanoi would establish political legitimacy for the Viêtminh, solving the manpower problem.

Countering Giáp was a new French commander-in-chief, General Jean de Lattre de Tassigny. De Lattre was perhaps the leading French military personality of his day, with an "appeal to the average French soldier or civilian...comparable to the appeal which Eisenhower and Patton... [had] for the average American."[18] Taking command on the heels of the border debacle, de Lattre worked to centralize his force in the Tonkin Gulf area, building a fortified perimeter around Hanoi and Haiphong. Upon completion, this "de Lattre Line" was to be manned by troops of the newly-formed Vietnamese National Army, freeing his own French forces for offensive operations against the Viêtminh.

Giáp's Delta offensive began on 13 January 1951 with an assault on the French garrison at Vinh Yen. The battle raged for two intense days, as the French, outnumbered by more than three to one, barely held their ground. The turning point came on the 16th and 17th, as de Lattre personally took command of the French defense and ordered a continual airlift of ammunition to the battered garrison. Along with the airlift, he also ordered every available fighter-bomber and transport in Vietnam loaded with canisters of napalm and dropped on the attacking Communist forces in what Bernard Fall called "the

[18] Spector, pp. 135-36.

most massive aerial bombardment of the [First] Indochina War."[19] Literally roasting thousands of the Viêtminh, the firebombing checked the attack, as the Viêtminh retreated the following day.

Undeterred by the loss of over 6,000 of his troops, Giáp attacked the 400-man garrison at Mao Khé on 23 March, with the battle taking a similar course. Again, Giáp was on the threshold of victory when three French destroyers navigated the Da Bac River, putting their guns within range to pummel the Communist attack. Accompanied again with airborne assault and aerial bombing, the Mao Khé assault was finally halted on the 28th; but in response, Giáp rolled and launched an attack on the Day River the following day. De Lattre quickly responded with airborne and overland reinforcements, and the offensive was blunted by 6 June; in the end, Giáp lost approximately 20,000 men in only six months of fighting. A key to the French victory had been airpower, in dropping supplies, reinforcements, and bombs—but these aircraft were based less than fifty miles from their targets, a luxury that would soon fade.

Fig. 1.5. Burning wreckage of an FAF AAC-1 shelled by Viêtminh artillery at Hoa Binh airfield. From Meyerson, *Images of a Lengthy War*, p. 20.

Seeking to ride the wave of French victory, de Lattre launched his own offensive in November, dropping three parachute battalions twenty-five miles outside his defensive perimeter on the village of Hoa Binh, hoping to lure the Viêtminh into another deadly

[19] Fall, *Street*, pp. 31-32.

battle.[20] Giáp reacted by cutting over-land French lines of communication, forcing resupply by either *dinassaut* river gunboats or aircraft on Hoa Binh's airfield. Giáp systematically cut the river and then began shelling the airfield in an effort to strangle the offensive, forcing a French withdrawal at the end of February 1952. Each side lost 5,000 men and de Lattre died of cancer during the offensive. Hoa Binh had been a "meatgrinder" for both sides, but it had also revealed a telling French weakness; French forces could not adequately resupply remote positions, a specter that would return in two short years.[21]

Operation LORRAINE—1952

Giáp's analysis of his Red River Delta offensive revealed one obvious conclusion—avoid the French power-base of the de Lattre Line and conversely exploit the inability of the French to operate at a distance from their base. With this in mind, he launched an offensive in October 1952 into the Fan Si Pan Mountains near the Black River, threatening the French-allied T'ai tribesmen, as well as the French outposts in northern Laos. Buoyed by increasing US aid, General Raoul Salan, de Lattre's replacement, responded by devising Operation LORRAINE.[22] Designed as a thrust

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[20] This operation marked the end of the AAC-1's service in Vietnam, as the twenty-five year old tri-motors were retired in lieu of a steady stream of American aircraft. See Fall, *Street*, p. 48.

[21] Fall, *Street*, p. 55; Davidson, pp. 105-35; Summers, *Atlas*, pp. 52-55.

[22] By the end of 1951, US deliveries to Vietnam stood at 100,000 tons, forming the bulk of the French Army's weapons and supplies. In the airlift arena, the French recognized the need for a more substantial airlift capability in the face of Giáp's attacks against detached French outposts, and requested the use of C-119s and C-54s, a request denied in the face of US involvement in the Korean War. The French were not too terribly disappointed, however, as these larger planes were unable to operate on many of the FAF's unimproved austere airstrips. General Guillaume Chassin, Commander-in-Chief of the FAF in French Indochina in 1952, called for reliance upon "a low-tonnage machine, simple and light in construction, capable of landing on any airfield." He acknowledged the value of "high capacity aircraft of the Fairchild C-119 'Packet' type," but regarded the C-47 and Ju-52 with greater esteem in the jungle environment of French Indochina. In response, the US delivered ten C-47s in both the spring and the fall of

against the Viêtminh supply bases along the Red River northwest of the Delta, the operation was intended to force a reaction by Giáp. If he continued with his Fan Si Pan offensive, Viêtminh depots would be decimated by the LORRAINE columns, and Giáp would be forced to halt his assault to protect his rear. Unfortunately for Salan, Giáp did not take the bait.

LORRAINE began on 29 October, as two French columns broke north of the de Lattre Line, successfully joining an amphibious *dinassaut* force, as well as a force of three paratroop battalions dropped by FAF and civilian air transports.[23] Rather than halt his Fan Si Pan operations, Giáp directed his two regiments in the area to stop the French advance before they reached the Viêtminh supplies at Yen Bai or Thai Nguyên. The key moment in LORRAINE came on 13 November, when forward elements of the French thrust detected stiff Viêtminh resistance in the vicinity of Yen Bai, causing Salan to halt the operation the next day. The only significant fighting occurred a few days later, as the retreating French column was ambushed at the Chang Muong Gorge. In the end, LORRAINE cost 1,200 casualties with no appreciable gains.

Following the French retreat, Giáp began the second phase of his campaign against the Black River posts. Late in November, his forces captured Moc Chau, then

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1952, yet the aircraft were quickly flown to their serviceable limit. Salan liked the aircraft so much that he requested additional Dakotas from Washington in late 1952. The USAF's Far East Air Force (FEAF) promptly dispatched twenty-one aircraft to Clark Air Base in the Philippines to be stripped of USAF insignia for delivery at Nha Trang in January 1953. The aircraft were accompanied by a USAF depot team dedicated to their maintenance; this USAF contingent, the first apart from the MAAG to deploy to Vietnam, served as maintenance support until relieved by French counterparts in August of 1953. See G.J.M. Chassin, "Lessons of the War in Indochina," *Interavia* 7 (1952): 675 and Futrell, *USAF in SEA*, pp. 10-11.

[23] The FAF augmented the shortages of the S/GMMTA by requisitioning civilian airlines. The degree to which the FAF relied on these civilians is indicated by the fact that commercial pilots accounted for over 10% of all pilot deaths in Indochina by the end of 1954. See Fall, *Street*, p. 260.

moved against the base at Na San. Underestimating the size and strength of the French force, he unsuccessfully attacked Na San on three separate occasions, sustaining 7,000 total casualties. Na San was reported to have two understrength battalions of about 2,000 men, but in reality, Giáp had launched his assault against ten entrenched battalions sufficiently supplied by air. Abandoning Na San, Giáp continued south toward his objective of Sam Neua in northern Loas, but was forced to stop his advance when he out-ran his supply lines. Disappointed at having to break off his advance, Giáp returned to T'ai country to rest and refit his army, bolster his logistical system, and prepare for another Laotian assault in the coming spring.[24]

Fig. 1.6. C-47 and airborne B-26 at Na San. From Meyerson, *Images of a Lengthy War*, p. 28.

The Laotian Excursion—1953

The first three months of 1953 were quiet, as the French worked to sharpen the Vietnamese National Army, and Giáp readied his divisions for another thrust into Laos. A second Laotian incursion was inviting to Giáp, as it seemed to pose little risk to the Viêtminh, but with a contrasting potential for great gain. The French government in Paris was already wearied and demoralized by the war in Vietnam, and an offensive into Laos

[24] Summers, *Atlas*, pp. 56-57; Davidson, pp. 137-147.

would serve to create the image of an ever-expanding conflict. Additionally, such an offensive would serve to strengthen the Pathet Lao, the nascent Communist movement in Laos.

Giáp launched his offensive along a broad front, with three divisions advancing line abreast, immediately threatening the French garrison at Sam Neua. Salan first decided to reinforce the post by air, but after determining that the garrison's airfield was too short and surrounded by too many mountains for a steady flow of supplies, he called for the garrison to withdraw to Xiangkhoang in the Plain of Jars. The Viêtminh continued their advance, threatening the capital of Luang Prabang while isolating the French Jars Camp from overland supplies, prompting a cry to the US more airlift.[25]

While the Pentagon deliberated the French requests for support, Secretary of State John Foster Dulles was returning from a NATO meeting in Paris. During the meeting, the French were anxious about the situation in Laos and wanted to borrow C-119s to transport tanks and heavy equipment. French representatives went so far as to say, "having such equipment might mean the difference between holding and losing Laos." Upon his return, Dulles discussed the matter with President Eisenhower, noting that the option to send American forces into French Indochina "was a decision which would have many repercussions and would raise many problems."[26] But there was a solution to the problem; perhaps the US could use American *civilian* pilots to fly the C-119s, and avoid any official unpleasantness. The day prior, Secretary Dulles had checked with his brother

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[25] Davidson, pp. 147-53.

[26] Department of Defense, *United States—Vietnam Relations, 1947-1967*, 12 books (Washington DC, 1971, book 9, p. 38, as quoted in William Leary, *Perilous Missions: Civil Air Transport and CIA Covert Operations in Asia* (University of Alabama Press, 1984), p. 164.

Allen, the new Director of Central Intelligence (DCI), about the feasibility of using the Agency's Civil Air Transport (CAT) pilots based out of Taiwan to fly the C-119s. DCI Dulles contacted CATs president in Hong Kong, Alfred T. Cox, who replied with a prompt "can do." The proposal gave the Eisenhower administration the best of both worlds: control over a sizeable airlift contingent capable of stemming a Communist overthrow of Laos, without the domestic or international consequences of putting American military forces in harms way.[27] The French accepted the offer, and in the last week of April, the Pentagon directed the loan of six C-119s to be piloted by CAT civilians to French forces in Vietnam. It was this decision that brought a heavy airdrop capability to French Indochina, adding a new dimension to an already complicated war.[28]

Fig. 1.7. Fairchild C-119 Packet

The new airdrop capability boosted the French efforts in Laos, but Giáp's withdrawal in May was motivated more by his own logistical weaknesses. As had

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[27] Ironically, it was the French who gave greater pause to the proposal. Claire Chennault, the fabled commander of the Flying Tigers, started CAT following World War II. A personal friend of Chiang Kai-shek, Chennault astutely realized the impact airlift could have in rebuilding China in 1946, and started CAT with business partner Whiting Willauer. The airline began in fits and starts, but eventually became a reputable company by the late 1940s. During the Chinese civil war, CAT was employed by the Nationalists, and as such fled to Formosa in 1949 to escape the Communist advance. By 1950, the airline was out of customers and money, and when Chennault threatened to sell the airline to the highest bidder, the clandestine arm of the State Department, the Office of Policy Coordination (OPC), stepped in to bankroll CAT. Shortly thereafter, the OPC was incorporated into the newly created Central Intelligence Agency (CIA), who assumed all the rights and privileges as effective owner of the airline. It was the ties of CAT to the Chinese Nationalists that the Mayer government disliked, fearing that the use of these pilots might provoke Mao's government in Beijing. Dulles assured the French that only American pilots would fly the missions and that as such, any Chinese nationalist residue would be minimized. Leary, *Perilous Missions*, p. 164.

[28] Leary, *Perilous Missions,* p. 164; Ray Bowers, *The United States Air Force in Southeast Asia: Tactical Airlift* (Wash DC: Office of Air Force History, 1983), p. 10.

happened the previous December, Giáp had outrun his supply lines, as he was unable to recruit a sizeable force of Laotian porters loyal to the Viêtminh cause, forcing a withdrawal to his base in the Viet Bac. Additionally, the arrival of the Southwest Monsoon put a halt to any major campaigning until the coming fall. Despite the retreat from Laos, Giáp could look back on the past two years with satisfaction. He had maintained the initiative of the war since launching his costly offensive against the Red River Delta in 1950. Also, Giáp's forces had outgrown anything the French were willing to muster in Vietnam, and he had forced both de Lattre and Salan to react to his course of action, rather than the converse. In order to control the hemorrhage, the Mayer government in Paris appointed a new commander-in-chief to Vietnam, charged with improving the Indochinese political climate toward the prospect of future negotiations. The man appointed to the task was Lieutenant General Henri Navarre

Navarre took command in Saigon on 28 May with the full pomp and circumstance worthy of his new mission. Born in 1898 in Villefranche de Rouergue in Aveyron, he was the son of a noted Greek scholar and Dean of the Faculty of Letters at Toulouse. At the age of 18, the young Navarre enlisted in the army to pave his way to Saint-Cyr, finishing World War I in the Dragoons. Following World War II, he made his way up the ranks, serving as an intelligence officer on a number of General Staffs, and eventually took command of the 5th Armored Division in 1952. Known for his steely and calculating demeanor, Navarre was not necessarily the most qualified man for the job—

but Premier René Mayer, with whom Navarre had worked in Algeria, was familiar with the general and judged him to be the most capable man for the complicated task at hand.[29]

Shortly after taking command, Navarre, in good military fashion, devised a plan bearing his name. The so-called "Navarre Plan" called for an end to the war within eighteen months, based upon a series of conditions. First, 20,000 additional French troops were needed from Europe to meet the anticipated Chinese involvement in Vietnam with the war in Korea soon ending. Next, the new government in Paris would have to concede greater independence to the Indochinese Associated States in exchange for the raising of eighteen indigenous battalions. Militarily, the plan called for the reorganization of French forces to get them out of their static positions and create *corps de bataille* capable of devastating Giáp's regular forces in open warfare. And during this period of building, Navarre planned to avoid major engagements with Viêtminh forces.[30] The plan was aggressive in nature and decisive in its goal, but its execution failed to take into account the fitness of the enemy—an enemy held in very low regard from the standpoint of military professionalism. Even the Viêtminh Army's commander was referred to only by the name *Giáp*—never *General*

Fig. 1.8. Lt. Gen. Henri Navarre, from Spector, *Advise and Support*, p. 173.

[29] Jules Roy, *The Battle of Dienbienphu* (New York : Carroll & Graf, 1984), p. 317. Navarre was in the 5th Armored Division in 1944 as commander of the 3d Moroccan Spahis when his troops had captured Karlsrue 24 hours before de Lattre, who apparently never forgave him.

[30] Tucker, p. 68; Douglas Porch, *The French Secret Services: From the Dreyfus Affair to the Gulf War* (New York: Farrar, Straus, and Giroux, 1995), p. 335.

Giáp. Unfortunately for Navarre, this dangerous chauvinism would cloud any hope for a clear forecast of Viêtminh intentions and capabilities alike.

CASTOR Arrives

Three French operations interrupted the usual monsoonal lull between May and September: Navarre launched HIRONDELLE, CAMARQUE, and MOUETTE in an effort to establish a limited offensive initiative in the wake of Salan's feeble leadership. HIRONDELLE, the "swallow," was an aptly named operation, as three French parachute battalions effectively struck the Viêtminh position at Lang Son on the Sino-Vietnamese border on 17 July, destroying 5,000 tons of equipment and fuel, and then quickly exited to the coast, where they were evacuated by the French Navy. CAMARQUE was a more sizeable operation, as thirty French battalions thrust into central Annam on 28 July to destroy the Viêtminh 95th Regiment; unfortunately for the French, the operation missed, and less than 600 Communists were killed or captured, along with only a small cache of ammunition. MOUETTE, "seagull," was launched on 7 October as a spoiling action against the Viêtminh 320th Division; Navarre's intelligence section informed him of Viêtminh message intercepts that revealed Giáp's plan for another full-scale offensive against the Red River Delta, prompting a French counter. The operation accounted for 3,000 Viêtminh casualties, as Navarre's off-season offensives kept steady pressure on Giáp, inflicting nominal damage in an effort to keep the Viêtminh off balance.

On 2 November, Navarre's staff released Directive No. 852, outlining the structure of command for a forthcoming spoiling action in northwest Tonkin. The overall commander was to be Major General René Cogny, commander of all ground forces in northern Vietnam. Two days later, Cogny's staff sent a vehement reply to Navarre's

order, casting serious doubt on the possibility that a mission so far behind enemy lines would succeed. Nevertheless, preparations were made as Navarre was resolved to put six paratroop battalions (later reduced to five) in a clear area south of Lai Chau between 15 and 20 November. Cogny's staff made preparations for the air assault by notifying Colonel Jean Nicot, commander of the Air Transport Command, who began to scrape together enough crews to fly the sixty-five Dakotas needed to drop the paratroopers. Nicot, like Cogny, expressed his disapproval of the operation on the grounds that any force so far removed from French controlled east-Tonkin would be completely dependant on a sizeable aerial resupply; an aerial resupply capability that simply did not exist.

On the evening of 19 November, C-47 Dakotas of the four FAF Transport Groups stationed in Vietnam returned from an arduous day, flying resupply missions in support of operations against the Viêtminh's 320th Infantry Division in the southwestern part of the Red River Delta. Mechanics at Gia Lam and Bach Mai airfields worked feverishly through the night, preparing the planes for a massive airborne assault the next day. The operation was called CASTOR, and the target was a little known place called Diên Biên Phu.[31]

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[31] Bernard Fall, *Hell in a Very Small Place: the Siege of Dien Bien Phu* (New York: Da Capo, 1966), pp. 2, 34-36.

CHAPTER 2

Of *Paras*, Pilots, and Planes: From CASTOR to Battle

"... qu'on ne me parle pas des vivres!"
['let no one speak to me of provisions!']
Napoléon Bonaparte[1]

"Why can't they just buy one airplane and take turns flying it?"
Calvin Coolidge

At 0500 on Friday, 20 November 1953, a single C-47 took off from Bach Mai airfield near Hanoi, enroute to a sleepy village in the Tonkin highlands, known by its inhabitants as Muong Thanh. Although this name evokes little recognition, it is the titular name of this hamlet that correspondingly stirs or chills the Vietnamese and French heart. That name is Diên Biên Phu.

The lone Dakota was unique in its configuration. It was loaded with communications equipment and sufficient fuel for eight hours of flight, as well as a team of pathfinders—a group of elite paratroopers charged with jumping onto austere drop zones (DZs) just prior to the arrival of an invasion force. These pathfinders would then mark the DZs with smoke while the bulk of the force was only minutes away. But this was not the only mission of this C-47. The plane also carried three general officers of considerable influence. These men included the Deputy Commander-in-Chief of Indochina, Lt. General Pierre Bodet (FAF); Brigadier General Jean Dechaux, commander

[1] This quote is attributed to Napoléon despite the fact that he was responsible for completely revamping the French logistical system. On two occasions, however, he eschewed sound logistical

of *Groupement Aérien Tactique Nord* (or GATAC North, the tactical air group commanding French air operations in northern Indochina); and Brigadier General Jean Giles, commander of the French paratroop forces in Indochina. Whatever airborne decision these men made would finalize concerns of the day's events. It was certain to be of no small consequence.

The plane arrived over its target at 0630 and began a wide holding pattern while an on-board meteorologist assessed the chances of the *crachin* (dry fog) lifting in time for the day's operation. By 0700, the early morning sunrays began to gnaw away at the fog. The meteorologist went to the rear of the plane to pass his updated forecast to Dechaux, who passed the word via radio to the overall commander of French forces in North Vietnam, General René Cogny. At 0720, Cogny passed the message to Colonel Jean Nicot, the Air Transport Commander in Vietnam.[2]

At 0500, just as the airborne command post/pathfinder C-47 was taking off, crews drawn from the four *Armée de l'Air* Air Transport Groups were being picked up from their billets and assembled for a mass briefing. There was an air of anticipation regarding the day's approaching events. A week prior, Nicot had frantically juggled his pilot manning to build the sixty-five crews needed for the day—a common chore in the Transport Command, as the number of aviators on-hand was perpetually low. Nicot had only fifty-two C-47 crews and ten C-119 crews and was forced to schedule staff-officer pilots, like himself, who normally "flew desks," to meet mission requirements. Such a

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practice, leading to failure in Spain and Russia. Julian Thompson, *The Lifeblood of War: Logistics in Armed Conflict* (London: Brassey's Ltd., 1991).

[2] Fall, *Hell*, pp. 1-2.

large group of crews assigned to the morning's mission also disturbed the normal day-to-day rhythm of airlift operations. The room teemed with speculation. After devouring a quick breakfast, crews gathered at 0550 to listen to Colonel Nicot's briefing as he began:

> Gentlemen, this is your mission: An airborne landing at Dien Bien Phu. This is an all-out effort with all available aircraft and crews. I personally will lead the first flight. The mission will take place in two serials; the first serial of 33 aircraft broken down in four platoons will take off from Bach-Mai Airport; the second serial of 32 aircraft grouped in four platoons will take off from Gia Lam Airport. The first serial will be commanded by Major Fourcault whose code name will be Yellow Leader. The second serial will be commanded by Major Martinet under the code name of Red Leader. My own code name will be Texas. Take-off spacing between serials will be three minutes, between the individual platoons one minute and between the three-plane sections will be ten seconds. Watch your timing, gentlemen, we must be extremely precise. Each plane will carry 550 gallons of gasoline at take-off. The second serial will do a second flight today, 24 aircraft will carry matérial and 8 will carry personnel. Another personnel drop will take place in the afternoon. The dropping of equipment should not take longer than 20 minutes.[3]

Mission profile specifics were covered. The altitude over the drop-zone (DZ) was to be 2,900 feet, putting the Dakotas approximately 1,300 feet above the ground. The "run-in course," or the heading the planes were to follow over the DZ was 170°, virtually north-to-south. Terrain features were undoubtedly discussed, as the DZ area was in a broad north/south valley with peaks of over 5,000 feet that would be within five miles of the aircraft while over the drop zone. Even more dangerous were the peaks of over 7,000 feet just ten miles prior to reaching the target. This meant that the formations would have to fly at a high altitude until just before the DZ, then aggressively descend to drop altitude. Poor weather would certainly cancel the mission, as low-altitude flight without being able to see the high terrain would be prohibitively hazardous.

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[3] Ibid., p. 3.

Following the drop, aircraft would execute a 180-degree turn, climbing at 500 feet per minute. The estimated flight time to cover the 163 nautical miles from the Hanoi area to Diên Biên Phu was two hours. Other details were covered, including communication procedures, where strict radio silence was to be observed during the mission. Divert fields were also discussed in the event of a necessary emergency landing (there were none within a hundred miles of the DZ). Climb, cruise, approach, and drop speeds were briefed, and procedures were coordinated between the airlifters and the fighter-bombers.[4]

The briefing ended at 0700, and at 0715, the crews walked to the aircraft where paratroopers were preparing to board. In five minutes, all paratroops were loaded for a pre-briefed takeoff of 0745. The plan was to start engines at 0720, but Air Transport Headquarters at Bach Mai did not issue the "go" order until just before 0800. This broke the anxious tension that arrested the aviators, with an even greater relief to the paratroop cargo as the *paras* had been up even earlier than the aircrews. At 0400, the *6e Bataillon de Parachutistes Coloniaux* (Colonial Parachute Battalion, or 6 BPC) and *IIe Bataillon, Ier Régiment de Chasseurs Parachutistes* (2d Battalion of the 1st Regiment of Parachute Light Infantry, or II/1 RCP) had left their quarters for a pre-mission briefing covering the DZs and the objective once on the ground. The men who comprised the two battalions were an ethnic blend made up of over 30% Vietnamese and the remainder European.

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[4] Marc Bertin, *Packet Sur Diên Biên Phu :La Vie Quotidienne d'un Pilote de Transport* (Paris: Presses Universitaires de France, 1991), p. 13; Fall, *Hell*, pp 2-4; Defense Mapping Agency Aerospace Center, *Tactical Pilotage Chart J-11A, China, Laos, Vietnam* (St. Louis, April 1987). According to Bertin (an FAF pilot during CASTOR), serial spacing ended up being eight minutes. Also, Bernard Fall states that the flight time was planned for "76 minutes and 10 seconds." He does not say specifically what distance this span of time was to cover, but according to Bertin, the flight was planned for just over 2 hours. This second figure is more realistic, given the distance between Hanoi and Diên Biên Phu and the cruising speed of a C-47.

The typical trooper donned equipment weighing a third his weight, to include a main parachute on his back, a reserve on his belly, a rifle, ammunition, rations, an emergency kit, and necessary personal items.

At 0800, the command to launch was given by signal flare, and all sixty-five airplanes started engines and began executing the planned takeoff procedures. The Dakotas, once airborne, circled until all of the planes in the respective serials were in formation position. At approximately 0815, Commander Fourcault, "Yellow Leader" and head of Transport Group 2/63 *Franche-Comté*, led his formation of thirty-three planes west. Minutes later, "Red Leader," Major Martinet, departed overhead Gia Lam enroute to Diên Biên Phu. The leader of the entire formation was Colonel Nicot, call sign "Texas" and commander of the *Sous-Groupement des Moyens Militaires de Transport Aériens* (S-GMMTA).

The formation climbed to cruising altitude and adjusted speed to meet the 1035 jump time for both battalions. As the planes approached the drop zone, the formations that were previously spread out between platoons began to compress as the lead aircraft slowed to an airdrop speed of 105 knots. This posed a significant challenge for the pilots, as the normal drop speed was 115 knots. The formations worked to fly slower than normal, however, to keep the separation of dropped paratroopers to a minimum. It could conceivably take five seconds for a single trooper to exit his plane—and with twenty-five *paras* on board, covering fifty yards per second in flight, a single plane's "stick" of paratroopers could be spread out over three miles by the time they reached the ground. The slow speed made for sluggish controls, less than desirable in a situation where sixty-five Dakotas were packed into a narrow valley, all trying to lay their cargoes within a

short distance of the other. Another hazard was the "wake turbulence" and "prop wash" caused by preceding Dakotas, as air disturbances similar to that caused by boats in the water threatened to render the C-47s uncontrollable. C-47s "stacked," or flew at a slightly higher altitude than the planes in front, in order to avoid the turbulence generated by the lead aircraft. Because of the size of the formation, this put the trailing Dakotas at 6,500 feet until just prior to the DZ, requiring a near nose-dive to the drop altitude of 2,900 feet just before the paratroopers exit. As a result, several three-ship sections missed the drop on the first pass, necessitating a second pass.[5]

Although the overall target for the day was Diên Biên Phu, the specific targets were the drop zones named "Natasha," " Simone," and "Octavie." Of the three thousand drop zone surveys covering Indochina and maintained by the French intelligence community, these three were chosen for the morning's drop.[6] And of the three, "Natasha" was the closest to the center of the planned camp. It would be the most utilized DZ for the next half-year. This rectangular drop zone measured 3,900 feet in length and 1,350 feet in width. Its axis ran almost perfectly north-south, with a small creek traversing its center and semidry rice patties and brush covering the southern end. Diên Biên Phu's airfield lay three hundred meters to the east.[7] Drop zone "Simone,"

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[5] The aircraft approached Diên Biên Phu as thirty-two or thirty-three aircraft serials (based upon their position on takeoff), but dropped over the DZs as three-ship sections.

[6] Drop zone "Suzanne" was selected but never used at Diên Biên Phu.

[7] The French government built Diên Biên Phu's airfield in the late 1920's. Initially, it was an emergency landing field for unreliable aircraft, characteristic of the day. During World War II, Free French forces exploited the remote runway to smuggle out two American flyers who bailed out over Japanese-controlled Indochina, and later, a small detachment from Claire Chennault's Flying Tigers occupied the field. In 1945, Japanese forces controlled the small strip, then yielded to Nationalist Chinese at the end of the war. French forces eventually re-occupied the town and field until October 1952, when the Viêtminh threat forced their retreat. Fall, *Hell*, pp. 23-24.

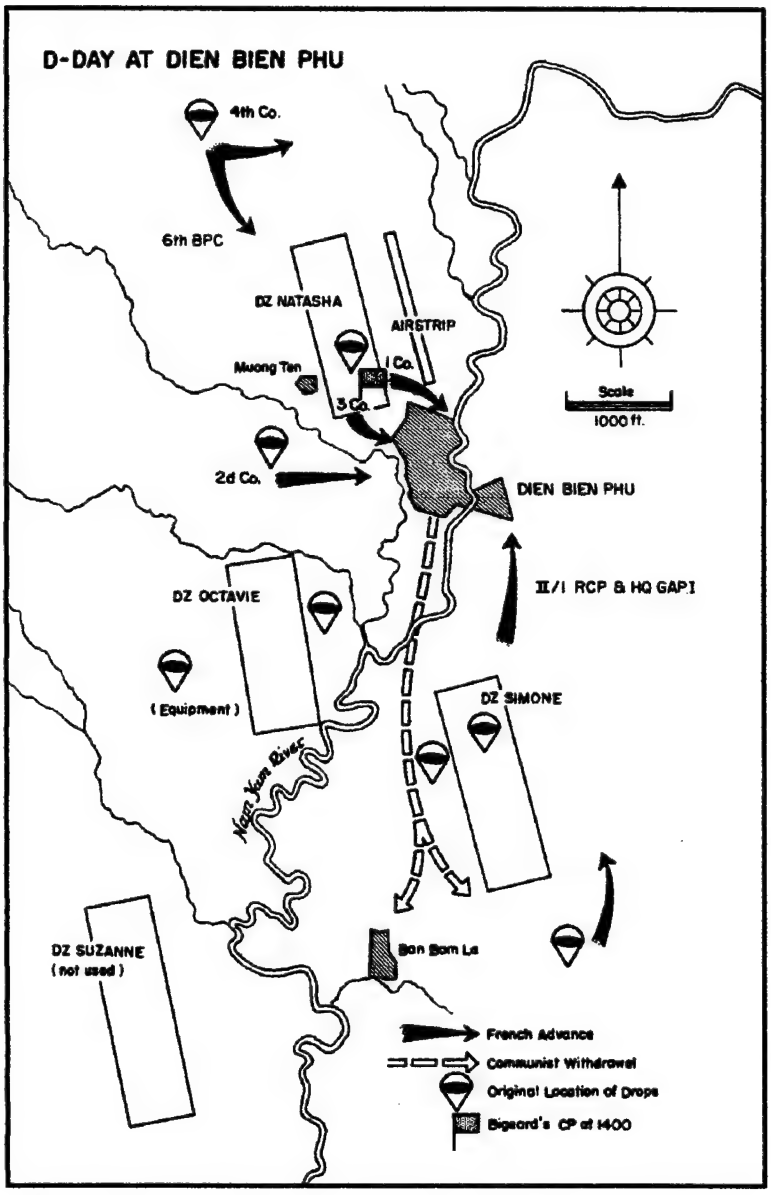

Fig. 2.1. The launching of Operation CASTOR, 20 November 1953. From Fall, *Hell*, p. 13.

located 400 meters southwest of Diên Biên Phu on the east side of the Nam Yum River, was approximately the same size as "Natasha" and was partially covered with rice fields. "Octavie" was located just northwest of "Simone" and was unique in that it was dedicated exclusively to equipment drops. This allowed paratroop commanders the luxury of dropping both *paras* and 100-pound bales of barbed wire or 200-pound sacks of rice without the threat of troopers being crushed by the falling goods.

Following the airborne landing, the two battalions of paratroopers engaged the Viêtminh 147th Independent Regiment, a battle-seasoned force made up largely of tribal mountaineers. Three of the four battalions that comprised the 148th were away that day, as predicted by French intelligence, and the French paratroopers forced the remaining

910th Viêtminh Battalion to retreat six hours later. The C-47s flew back to Hanoi, replenishing both plane and pilot, and returned at 1500 delivering another 722 *paras*. By the end of the day, the bliss of this sleepy Tonkin valley had been shattered by the delivery of 1,827 French troops at the cost of 11 dead and 52 wounded. With a continual flow of equipment now arriving via parachute, French forces had secured a position some 220 miles behind enemy lines.[8] A single early-morning radio call by a lone C-47 may have set the immediate course of events into motion, but the reasons for *why* Diên Biên Phu was chosen are more complicated, and go back many months before November 1953.

Fig. 2.2. Paratroopers descend on Diên Biên Phu. From Summers, *Historical Atlas*, p. 59.

***Pourquoi* Diên Biên Phu?**

Any work that explores the facets of the Diên Biên Phu operation is invariably confronted with the simple question of *why* the actors did what they did. This work is not intended to set forth a detailed analysis of motives, but we have come to the place where we can go no further without establishing a credible explanation for what motivated the various parties involved in this drama. Central to the issue of motive is the specific question regarding Navarre. Why did he send forces to this obscure village in upper-Tonkin? I shall attempt to answer this question by first making a survey of the evidence, and then I shall test the plausibility of the various positions.

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[8] Fall, *Hell*, p.14.

Answers to the question of why General Navarre sent his troops to the "*pot de chambre*" may be broadly broken into two main groups, separated by the view of Navarre as either an initiator or a reactor. Earlier works on the battle portray Navarre as the former.[9] In these works, he is the cold, calculating, career intelligence officer who devises his "Navarre Plan" on the heels of Raoul Salan's floundering leadership. Navarre inherited Na San, one of Salan's *herissons*, or hedgehog bases that served as a fortified airhead established to sever Viêtminh supply lines into Laos. This base had been the site of an overwhelming French victory in November 1952 when Giáp's forces were routed during three separate attacks; superior firepower and aerial resupply were the assumed strengths of the hedgehog. Conversely, the Viêtminh were forced fight from a position of inferiority with artillery, and even if substantial heavy weapons were available, the Viêtminh logistical system, based upon the use of coolies and bicycles, could never muster enough equipment to seriously challenge the *base aéro-terrestre*.

The French garrison at Na San had weathered a formidable onslaught, but this was not the greatest beauty of the *herisson*. In the summer of 1953, the decision was made to gradually reduce the number of troops at Na San from 12,000 to 5,000 enroute to a complete closure of the base, as its troops were needed elsewhere. With the base already under-strength, a continued depletion of manpower from the garrison would render it defenseless, so a ruse was concocted to complete the withdrawal. Knowing the Viêtminh Radio Intercept Service monitored transmissions from Na San, the garrison's commander sent a message requesting additional troops. When the aircraft arrived with

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[9] These include Jules Roy, Bernard Fall, John Keegan, and (ironically) even Võ Nguyên Giáp's account of the battle.

the supposed reinforcements, the planes were, in fact, empty and carried the remaining soldiers to safety. By the time word reached Giáp, it was too late—and herein lay the rub—not only could the *herisson* exact cruel punishment on attacking Viêtminh, but the entrenched force could also be painlessly extracted at will.[10] Surely, this success influenced Navarre's decision-making process the following November.

A direct relative of the hedgehog was another kind of *base aéro-terrestre*, the "mooring point."[11] If the *herisson* was intended to be a microcosmic Verdun by employing an offensive strategy by means of the tactical defense, the mooring point was designed to project French firepower deep into enemy territory. Such a fortress acted as a base of operations to launch spoiling raids far behind enemy lines. Whatever the express mission, whether defensive or offensive, there was value in staging troops deep in enemy territory, especially when Navarre enjoyed the upper-hand in being able to deploy or withdraw his troops with his superior air or sea power.

Joined at the hip with the hedgehog *base aéro-terrestre* motive for Diên Biên Phu, is the position that the initiating French general sought to crush the Viêtminh in a "set-piece battle." This view is especially prevalent in popular histories that tend to spend more time in the trenches then at headquarters. Incumbent in this view is the idea that

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[10] Davidson, pp. 169-171. Davidson discusses the impact of Navarre's Deputy Chief of Staff for Operations, Colonel Louis Berteil, who was previously the commander of Mobile Group 7 at Na San. Berteil was a "peculiar type...almost a mystic, full of complicated and untried strategic concepts." Davidson points out that many authors (including Fall and Roy) have portrayed Berteil as a sort of "Svengali who mesmerized the pliant Navarre into reoccupying Diên Biên Phu", when in fact the senior commander was not so easily persuaded by his subordinate. Davidson's verdict is that *if* Berteil were able to convince Navarre of a hedgehog at Diên Biên Phu, it was because the Commander-in-Chief wanted to do so from the start (p. 173).

[11] This was General Cogny's term for a extremely forward base from which to launch limited offensives.

Navarre was motivated by his government to bring an end to the unpopular eight-year old war in Indochina. As such, Navarre devised a scheme whereby he would place a sizeable garrison so deep in Viêtminh territory that Giáp would not be able to refuse the challenge. Additionally, this strategy was ideal for Navarre, who was constantly plagued by the guerilla-style of Viêtminh warfare, and by employing this strategy, he could make the enemy come to him rather than react to the converse.

Another motive for Navarre as the initiator of Diên Biên Phu brings Laos into the picture. On 22 October, just a month before Operation CASTOR, France signed the Matignoin Treaty with Laos, making this Indochinese state a member of the French Union. The treaty did not overtly specify terms of support in the event of military aggression against Laos, but proponents of this view state that there was a clear implication that if Laos was at risk, France would send direct military force to counter such a threat.[12] This view is further supported by the fact that following World War II, the Associated States of Cambodia, Laos, and Vietnam (composed of Annam, Tonkin, and Cochin-China) were really a loose confederation of Southeast Asian countries under the colonial hegemony of the French Empire. Treaty or not, it would be quite natural for France to support a threatened Laos. Besides, Laos was an easy route to southern Vietnam (as the US would later come to appreciate), and if Laos was not protected for Laos's sake, Viêtminh advances to the south needed to be blocked to protect Saigon and its friendly surroundings.

[12] The treaty stated in Article 2, " The Kingdom of Laos freely affirms its membership to the French Union...in which all associates place in common their resources in order to guarantee the defense of the Union as a whole." See Davidson, p. 177.

Finally, in a similar guise as the Navarrian desire to protect Laos, some hold to the French affinity to protect the *maquis*, the counter-insurgent guerrillas who fought with the French against the Viêtminh.[13] These French trained and supported indigenous soldiers served to keep Viêtminh opposition alive in areas long evacuated by regular French forces. As the *maquis* at Lai Chau were threatened by advancing Viêtminh, Navarre devised a plan to send a sizeable rescue force. Because of the difficult terrain around Lai Chau, the logical place to stage this relief force was nearly 100 kilometers to the south, in the valley of Diên Biên Phu.

Virtually no scholar asserts that Navarre was driven by only one of these factors. If Navarre was the initiator of what became the debacle of Diên Biên Phu, then the positive example of Na San as a hedgehog, the value of an offensive mooring point, the penchant to effect a "set-piece battle," and Laotian/*maquis* protection would all serve as motivators. And to varying degrees, these factors have all calcified over time into the orthodoxy that Navarre was the instigator and Giáp was the reactor. A shift, however, began to take place among authors in the late 1980s and 90s, with two new areas coming to the fore. First, a few scholars have recently published works on the role of the Chinese Military Aid Group (CMAG) in the First Indochinese War.[14] The source material includes diplomatic and military message traffic, as well as a heavy reliance on the diaries of some of the prominent members of the CMAG. The essence of this scholarship is that the Viêtminh were the marionettes, while Beijing paternalistically pulled the

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[13] See Fall, *Hell*, pp. 22-40.

[14] See Qiang Zhai, "Transplanting the Chinese Model: Chinese Military Advisers and the First Vietnam War, 1950-1954," *The Journal of Military History* 57, no. 4 (October 1993): 689-715 and Chen Jian, "China and the First Indo-China War, 1950-54," *The China Quarterly* 133. (March 1993): 85-110.

strings to implement Mao's grand strategic plan. The work is self-admittedly one-sided, but provides a very different view of Navarre's motive in moving to the Tonkin highlands.

The position holds to the following: in the spring of 1953, after Giáp was stopped during his Laotian offensive toward the Plain of Jars and Luang Prabang, he regrouped and reasoned that it was now time to launch an all-out attack towards Hanoi and Haiphong, the French power base in North Vietnam. This attack would serve to finally crush the already demoralized French forces. The CMAG, learning of Giáp's intentions, feared the Viêtminh were not strong enough to beat an enemy on territory securely held by the French army. After all, the French Commander-in-Chief in 1951, the immortal de Lattre, had built in true Vaubanian fashion the de Lattre Line, designed to maintain the security of the Hanoi/Haiphong perimeter. Rather than attack the French on their own terms, the CMAG proposed that the Viêtminh army lure the French out into the open, then destroy them. The Viêtminh border campaign victory at Cao Bang in 1950 was a clear example of the success of such a tack. Hô Chí Minh agreed with the CMAG, and instead of attacking Hanoi/Haiphong, the Vietnamese politburo voted on 3 November to send elements of the Viêtminh 316th and 351st Divisions towards Lai Chau.[15] This in turn spurred Navarre to counter with the placement of troops at Diên Biên Phu, to act as a

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[15] This Chinese scholarship continually portrays Hô as siding with the CMAG and Chinese Communist Party (CCP), even (at times) contrary to the wishes of Giáp. Herein lies an interesting parallel between the indebtedness of Vietnam and France to China and the US (respectively). In both sets of relationships, the dependant countries felt a need to appease their respective suppliers, as neither Vietnam nor France could have aspired to ultimate victory without Chinese and American weapons and money. Just as Navarre was compelled to keep the Americans satisfied to keep the pipeline of dollars open, so Hô was motivated to do the same with the CMAG. Although the scholarship on the CMAGs involvement in the First Indochinese War is valuable, to depict Hô as a pawn of Mao and the CCP goes a bit too far and fails

blocking force against a Viêtminh attack into northern Laos. As previously discussed, Navarre felt an obligation to defend Laos, and a sizeable garrison at Diên Biên Phu would meet this challenge.

This view of China as the master-planner goes even further in asserting that Giáp's move toward Lai Chau was part of the Communist "peace offensive" of late 1953. On 26 September, the Soviet Union called for a conference consisting of themselves, France, Britain, the US, and China, in order to "resolve international tensions." Two weeks later, Zhou Enlai repeated this request on behalf of China, and the eventual outcome was the Geneva Conference scheduled for the spring of 1954. If Giáp's move to the northwest went unchecked, then the Communist position at Geneva would be strengthened by virtue of the fact that Hô Chí Minh controlled practically all of North Vietnam. If Navarre responded to Giáp's northwestern move by attempting a counter, then the French would be fighting on enemy territory and would surely be crushed. Either way, the farsighted Chinese policymakers predicted a win-win situation that eventually worked to their advantage.[16] In the end, it is the clever Chinese, and not the goading Navarre, who are the initiators of battle at Diên Biên Phu.

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to factor in the historic resentment the Vietnamese harbored toward the patronizing neighbor to the north. See Zhai and Jian.

[16] This scholarship also points out that a Chinese victory did not necessarily equate to a Vietnamese victory in the ultimate sense. China, weary from its own civil war, the war in Korea, as well as Indochina, was content to concede a divided Vietnam to the Western powers. With the Chinese border secured by a Communist North Vietnam, Beijing could feign "good faith" to the West while strapping Hô and Giáp with another twenty years of war. See Zhai and Jian. A weakness in Zhai's well written article is the reference to an event that simply did not occur. The author refers to a CMAG instigated "human wave" attack by Viêtminh forces in January 1954, which ended in tremendous casualties among the Communists. As such, the author asserts that "human wave" attacks were abandoned for a more time-consuming sapping and entrenchment campaign to strangulate the French garrison (p. 709). Unfortunately, apart from Zhai's work, there is simply no record of a considerable January assault in *any* literature on the battle.

The final view in our survey of motives for battle comes from information uncovered in the archives of the *Deuxième Bureau*, the French Secret Service, the central intelligence arm of France in both civil and military affairs. According to recently released archival intelligence information, the real motive behind Navarre's move to Diên Biên Phu was *opium*. Opium was a crop that generated substantial income for French forces in Indochina, as it was planted, maintained, and harvested by the French supported *maquis*. One of the richest areas of opium was in the northwestern T'ai highlands, where the *maquis* generated millions of dollars of income to counter the Communist threat. As such, when Navarre's intelligence ascertained that Giáp was moving toward opium-rich Lai Chau, he effected a counter by placing troops at Diên Biên Phu to protect the *maquis*. As previously discussed, Navarre's desire to protect the *maquis* has always been openly acknowledged, but with the release of this new information from the *Deuxième Bureau* archives, proponents of this view maintain that the *real* reason for Navarre's decision is now made clear. Furthermore, the Communists, of both Chinese and Vietnamese strain, were keenly aware of this opium connection, and as such, had sufficient reason to believe that Navarre would give battle; and if he didn't, the exploitation of the opium crop would fall into enemy hands. Documentation published in the *Service Historique de l'Armée de Terre*, the archives of the French Army, clearly states in November 1953 that the *Deuxième Bureau* detected the movement of at least one Viêtminh division, and assessed the "imminence of a rebel action against our maquis in T'ai country. As a consequence the Franco-Vietnamese command launched on 20 November an airborne offensive on Diên Biên Phu."[17] In sum, the *maquis* in the northwestern T'ai federation were vital to

[17] See Porch, pp. 318-338. Douglas Porch's outstanding survey of the French Secret Service puts

the opium industry, as well as the piaster economy of greater Vietnam, and although their protection may have been a risk for Navarre, it was a risk he simply could not refuse.

Was Navarre the initiator of battle at Diên Biên Phu, or was he a reactor? Did he make his move to the T'ai highlands to set a trap, or did he naïvely walk into a cleverly laid ambush? In matters of argument, historians must constantly be wary of the *post hoc, ergo proptor hoc* fallacy that asserts because *b* followed *a*, then naturally *a* caused *b*. An analysis of the timeline shows clearly that Navarre's decision to move to Diên Biên Phu came almost two weeks before he learned of the politburo-directed Viêtminh movement. Additionally, given the secretiveness of the French High Command, it is doubtful that Giáp or the CMAG were informed that on 2 November Navarre had issued the order that called for the establishment of the *base aéro-terrestre* at Diên Biên Phu. The irony is this: within twenty-four hours, these two actors, Navarre on the 2^{d} of November and the Vietnamese politburo on the 3^{d}, made decisions concerning future stratagem that were completely independent of one another. Giáp's move to T'ai country in November did not lure Navarre. Conversely, Navarre's garrison did not initiate Giáp's move in that general direction. Both parties, by eerie coincidence, individually stepped toward the

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forth a compelling reason why Navarre went to Diên Biên Phu, but unfortunately the timeline of events does not support his thesis. He records Giáp's initial intent to attack the Hanoi/Haiphong area, and the subsequent quashing of this plan by the CMAG. When Beijing retorted, suggesting the Viêtminh move toward Lai Chau, the issue was deliberated and voted upon by the Vietnamese politburo on 3 November. This decision led to the movement of Giáp's forces toward Lai Chau, as detected by French intelligence in the middle of November. But this is far from being a sole motivator for Navarre's decision, as the French Commander-in-Chief issued order #852, the very order which called for the establishment of a fortress at Diên Biên Phu, on 2 November. This was an *entire day* prior to the finalized decision by the politburo to move toward T'ai country. The *Deuxième Bureau* was undoubtedly a formidable organization, but it is doubtful that they perceived or anticipated in such detail, Giáp's move before it was even decided upon. If Navarre was prompted to protect the *maquis* and their opium exploits, it was not as a result of a detected move by the Viêtminh in the direction of Lai Chau. For details concerning the issuing of order #852, see Bernard Fall's, *Hell*, p. 35.

Tonkin highlands as if some unseen hand was arranging the battle. And if it was by sheer coincidence that the French and Viêtminh heavyweights were to meet in a valley in northwest Vietnam, then this was surely a chance meeting of global consequence.

We are still left with the question, however, of why Navarre issued order number 852, the very order that executed the plan to re-take Diên Biên Phu? The answer lies in a mixture of the factors discussed above, as well as the explicit orders given Navarre by his civilian leadership. When Navarre left Paris for Indochina in May 1953, the only direction given him by Premier Mayer was to create a military condition in Vietnam that would lead to "*une solution politique honorable.*"[18] Navarre knew that he was responsible for defending Vietnam, and assumed the same for Laos. Upon arriving in Vietnam, he spent the first three weeks observing and assessing his new domain, at the end of which he announced the "Navarre Plan" to his staff. As discussed in the previous chapter, his plan would maintain a defensive posture in the north by means of "spoiling" raids to upset Giáp's offensive plans. He would also build the strength of his indigenous army so that French Regulars could be freed to launch a major offensive against Giáp in the 1954-55 campaign season. Hopefully, this offensive would result in a French victory, or at worst a draw, strengthening the French position in a future negotiated settlement.

Navarre briefed the plan to his staff on 16 June and returned to Paris in mid-July to do the same at the Chiefs of Staff committee. During this conference, the question of Laos was raised, and Navarre was told that in the view of his military leaders, he was *not* responsible for defending Laos. The committee conceded that their word was not final,

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[18] From Navarre's *Agonie de L'Indochina* (Paris: Plon, 1958), p. 72 as stated in Davidson, p. 165. This sounds vaguely similar to Nixon's "Peace with Honor" pledge.

however, as final guidance would have to come from a higher authority. On 24 July, the National Defense Committee convened and served as the required higher authority. This body comprised the president of the Republic, the premier, various ministers and state secretaries, and military leaders. Navarre again threw out the Laotian poser, and after a lengthy discussion, no decision was reached. In fact, no decision was agreed upon concerning Laos until 13 November, at which time it was decided that French forces in Vietnam had no obligation to defend Laos. Unfortunately, this message did not reach Navarre until 4 December, two weeks after his troops occupied Diên Biên Phu.[19]

The plan to occupy Diên Biên Phu was actually a leftover from the Salan regime. On 30 November 1952, a small French force abandoned the site in the face of the advancing Viêtminh 316th Division. Salan issued Directive Number 40 on 30 December, calling for an attack to retake Diên Biên Phu on 10 January 1953. The attack never occurred, as French forces were needed elsewhere. Diên Biên Phu still occupied Salan's mind, but nothing substantive came of his designs. When Navarre came to power, the inertia already existed for a westerly *herisson.* As discussed earlier, Navarre valued the hedgehog strategy, with Na San as a compelling example of success. He also reasoned that a hedgehog could easily become a mooring point for spoiling offensives. This was joined with a sense of obligation to protect Laos. Additionally, the *maquis*, although an ebbing offensive force, were nevertheless his responsibility to protect. And yes, surely the opium was another, unacknowledged motive for a *base aéro-terrestre* at Diên Biên Phu. But the occupation of the valley would also serve to inflict mortal wounds to his

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[19] Davidson, pp. 166-167, 174-176.

enemy's rear at conceivably a low cost, *à la* Na San. Also, Navarre did not want to be the Commander-in-Chief who would *lose* Vietnam; and if his country's politicians were not going to provide him with clear direction, he would take the matter into his own hands. Navarre was not seeking a major engagement during the 1953-54 campaign season; Diên Biên Phu bore the marks of earlier spoiling actions, albeit on a larger scale.

In July, before Navarre left for Paris, he had his staff prepare Operational Directive Number 563, a contingency plan calling for the reoccupation of Diên Biên Phu should Laos be threatened again. This plan was activated via a phone call from Navarre to his headquarters while he was still in Paris, the day after he met with the indecisive National Defense Committee. Initial preparations for the operation were made, but no action was taken until an execute-order was issued. On 27 October, elements of Giáp's 316th Division were detected moving toward Lai Chau, and five days later, given all the prodding he needed, Navarre decided to occupy Diên Biên Phu. Unfortunately, the convolution of motives obscured the base's ultimate mission, a mistake that would later prove costly.

From Cat Bi to Diên Biên Phu

Whatever the motive behind the decision to occupy Diên Biên Phu, aerial resupply would provide the essential logistical underpinning. The capabilities and limitations of the aircraft and crews involved drove the operation and deserve detailed explanation. Cat Bi airfield is active today and is located five miles southeast of downtown Haiphong, splitting the distance between the city and the Gulf of Tonkin. In the winter of 1953-54, air transport crews took off from the 8,000 by 170-foot east-west runway, made of a conglomeration of asphalt, concrete, and pierced steel planking (PSP),

and set a westerly heading of 280° for Diên Biên Phu. Once airborne, the crews began a steady climb, as the field from which they departed was only fifteen feet above sea level, yet the mountains they traversed rose to nearly 9,000 feet.[20] Approximately twenty minutes after takeoff, still climbing, they passed Hanoi five miles off the right wing. Ten minutes later, they leveled off at 10,000 feet, as the terrain below began to rise sharply from the basin of the Red River Delta. Geographically, Vietnam is similar to California, yet backwards; thinner in the "waist," and broader in the "head." The South China Sea boarders the entire east coast, and in the north the cities of Haiphong and Hanoi lay on a broad delta named for the main estuary fed by the sea—the Red River. If one were to imagine placing their open right hand over a map of North Vietnam, with the palm covering coastal Haiphong, the index finger would mark the location of the Red River; the middle finger would mark a pronounced valley in the direction of the town of Bac Kan; the ring finger would represent another deep valley leading to Cao Bang; and the small finger would point toward the coastal Shiwan Dashan mountain range. But it was the thumb that denoted the course of transports inbound for Diên Biên Phu. Flying over the Black River Valley, the transports

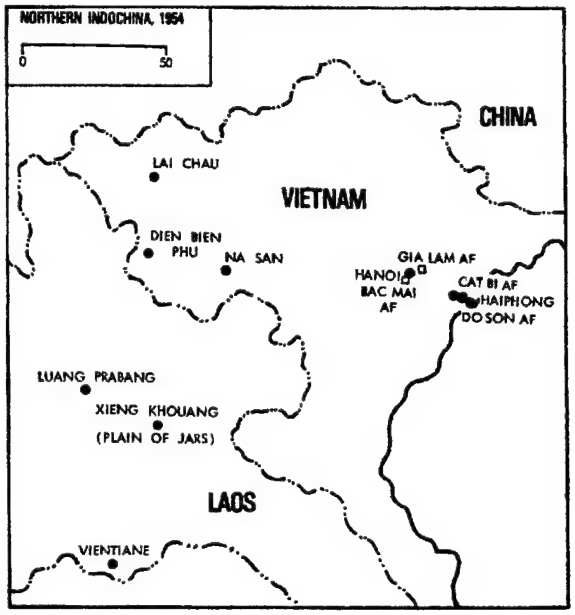

Fig. 2.3. Airfield map of North Vietnam. From Bowers, *Tactical Airlift*, p. 15.

[20] By way of comparison, the rise in elevation flying west from Hanoi (located 50 miles inland from Haiphong) is nearly as extreme as taking off from Denver International Airport and heading due west over the Rocky Mountains.

crossed directly over now communist-occupied Na San, undoubtedly stirring memories of the previous summer's daring evacuation. Fifteen minutes from their destination, the crews followed the north-south valley of the Nam Yum River, where they descended and made preparations for airdrop. Ten minutes away from the drop, the co-pilot, seated on the right side of the cockpit, alerted the "kickers" in the rear of the airplane. The kickers began to remove the safety straps that held the cargo in place, requiring the pilot to exercise greater caution when maneuvering. The pilot then started a shallow descent to the planned drop altitude, while the navigator made a last-minute analysis of the winds and weather that would affect the payload. At drop altitude, the pilot slowed the aircraft to the drop airspeed of 110 to 120 knots, and signaled the kickers with a red light in the cargo compartment when four minutes from drop.[21] Navigation was accomplished visually, as the only available instrument aid at Diên Biên Phu was a rudimentary radio beacon, only effective within twelve miles of the base. If a Dakota were dropping paratroopers as the cargo of the day, they would exit from a door on the right side of the aircraft after being signaled by a green light directed by the navigator. The Packet used the same procedure, but was able to deploy troopers faster, using two aft doors simultaneously.[22] For equipment drops, C-47 kickers simply pushed cargo out of the aft door when directed—but this method that limited the size and weight of a Dakota's

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[21] Contingent upon aircraft type; the C-119 dropped at a faster speed than the smaller transports.

[22] C-119s were almost never used to drop paratroopers at Diên Biên Phu, as the Packet was especially designed for heavy cargo. Paratroopers were just as easily dropped from C-47s.

cargo. During World War II, the largest item dropped from a C-47 was a 75mm pack howitzer, and this remained the case throughout the Korean War.[23]

By contrast, the C-119 could employ three different methods of aerial delivery: the monorail "suspended load technique," parachute extraction, and gravity extraction. The maximum payload with any method was seven tons. The monorail system involved attaching up to twenty "paracans" weighing a maximum of 350 pounds each to an overhead rail device. At the press of a button, the monorail winch began to track the paracans toward escape hatches fittingly called the "bomb bay doors." The entire load of twenty paracans could be ejected in ten seconds.[24]

The parachute extraction method of delivery was developed to drop heavy loads by deploying a parachute into the slipstream to pull the cargo out of the aircraft. When over the DZ, the copilot would toggle a switch that would release the extraction parachute, jerking the load from the plane—once clear of the aircraft, this parachute would detach itself from the load, and larger deployment parachutes would open for the payload's descent to the drop zone. During the Korean War, USAF crews successfully dropped 75mm and 90mm howitzers, jeeps, and three-quarter ton trucks using this technique. At Diên Biên Phu, the C-119 would have the opportunity to drop something much larger.

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[23] William Peifer, *Supply By Sky: The Quartermaster Airborne Development, 1950-53* (Washington DC: Historical Branch, Office of the Quartermaster General, 1957), p. 276.

[24] The monorail system was very temperamental and required frequent maintenance. It was abandoned in the next generation of airlift aircraft development in lieu of the less complex and more reliable container delivery system (Peifer, pp. 327-29).

Gravity extraction was the last and simplest method of aerial delivery. Loads weighing a maximum of 500 pounds were strapped to four-foot square sheets of plywood that sat on rollers mounted to the floor of the cargo compartment. These bundles were then lashed to the floor and walls of the aircraft with heavy canvas straps. Approaching the DZ, these straps were removed, as the loads were then retrained by one or two lines draped across the rear of the cargo compartment. Over the drop zone, the pilot pulled the aircraft into a nose-high attitude as the final straps were released, allowing the loads to roll out of the back of the airplane. The exiting loads had static-lines attached to the airplane, to deploy the necessary parachutes. In some instances parachutes were not used, as bails of barbwire and sacks of rice weathered a free-fall with little difficulty. The gravity extraction method was used most frequently in the delivery of cargo to Diên Biên Phu, as its simplicity produced reliability.[25]

Over the DZ, Dakota and Packet pilots made final positional adjustments, aligning the aircraft with the drop zone marking. This marking was usually one-hundred-foot by one-hundred-foot letter "T" made with cerise colored panels fixed to the ground; but any predesignated symbol would suffice.[26] Once the load was released and clear of the aircraft, the crew began escape procedures, in which the pilot accelerated and began a

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[25] Once the siege began in March, ground handling units had a difficult time recovering loads weighing over a ton, making the gravity extraction method all the more ideal. *Tactical Pilotage Chart J-11A, China, Laos, Vietnam*; Douglas S. White, "The Evolution of Airdrop Technique from an Aircrew Perspective," thesis, US Air Force Air Command and Staff College, 1984, pp. 32-36; Bertin, p. 32; 315th Air Division (Combat Cargo), *Far East Air Forces Supply from the Sky* (Maxwell AFB: AFHRA, 15 October 1953); Leary, *Perilous Missions*, p. 183.

[26] On 3 April Lt. Col. Langlais, the defacto operational commander of the fortress, insisted that C-47s circling overheard Diên Biên Phu drop the paratroopers they carried. The airborne drop commander, concerned that the drop zone was not in accordance with regulations, radioed his objection. Langlais ordered a barrel of gasoline set on fire to serve as a drop marker, retorting "*Merde!* You can tell Colonel

climbing turn to get the plane away from the rising terrain that surrounded the valley. The copilot reset the configuration of the aircraft, as flaps were lowered during the drop. The kickers retrieved the static lines trailing out of the back of the plane, to prevent their becoming entangled in the flight controls. Battle damage was assessed, and the crew returned to base.

CASTOR to IRONAGE: 21 November to 21 December

For 183 days, from 20 November 1953 until 7 May 1954, every person, weapon, and item of equipment at Diên Biên Phu, with the sole exception of the T'ai partisans from Lai Cha and what they carried on their backs, was delivered by air. Apart from water flowing down the Nam Yum and a few trees cut for reinforcement timbers and fuel, everything, both large and small, whether tank or tent, was delivered by air. On the 20th, the FAF had at its disposal sixty-nine Dakotas, as well as aircraft flown by the various French commercial carriers operating in Indochina. These civil crews were composed of veteran bush pilots with tens of thousands of flying hours in Indochina's challenging theater. They often worked out of small, mud-packed fields situated at the bottom of deep valleys, performing their own maintenance, and navigating without the help of maps or instruments. Flying their first missions to Diên Biên Phu on 21 November, these civilians, along with Nicot's C-47s, succeeded in supplying the newborn garrison with 190 tons during its first two days of life.[27]

Sauvagnac [commander of paratroop replacements] that I'll take responsibility for the drop-zone violations. Drop those men!" Fall, *Hell*, p. 217.

[27] As previously mentioned, the FAF made liberal use of commercial carriers in Vietnam, with one drawback—the civilians were not trusted with the details of secret operations. This being the case, they were usually only used during an operation's follow-up resupply, and not during the initial deployment phase. The following airlines flew chartered missions into Diên Biên Phu, or performed airdrops in support of the garrison: *Aigle-Azur*, Air *Outre-Mer*, CORSA, CLCT (Laos), Air Vietnam, and eventually Civil Air

Rounding out the air transport complement on 20 November were five C-119 Packets.[28] Under the provisions of the "McCarty Plan," named for the commander of the American's Far East Air Force (FEAF) transport arm, Maj. General Chester McCarty, the USAF contracted to deliver up to twenty-two C-119's to Vietnam within 72 hours of notification, to use for a maximum of five days. The five Packets at Cat-Bi on 20 November were not part of such a notification package, however. These planes and their USAF crews were in Vietnam conducting initial and refresher training for the French pilots who were qualified in both the C-47 and the C-119. The value of the Packet had been proven the previous summer during the counter of Giáp's Laotian offensive, as this aircraft was the only force-multiplying ace Colonel Nicot had at his disposal. Despite this fact, however, the Packet "card" was never played to its fullest potential, as the lack of transport pilots in general continued to plague Nicot's command.

Jean Nicot was born in 1911 in Paris. He was a Saint-Cyr graduate and an accomplished pilot. With a sterling record in World War II, he completed Staff College and volunteered to serve in Indochina, where he became the head of the Air Transport Command. Because of this position, Nicot was one of the first commanders notified of Navarre's plan to invade Diên Biên Phu, as Nicot's planes were the sole means of transportation. Upon learning of the operation, Nicot expressed his objections to Navarre; he had neither the planes nor, even worse, the crews to sustain such an

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Transport, Inc. In addition to the DC-3s, these airlines also used the British Bristol 170 Freighter, Boeing 307B Stratoliner, Curtiss C-46 Commando, DC-4 Skymaster, and S.O. Bretagne. Fall, *Hell*, pp. 16-17, 485; Mesko, p. 10.

[28] Robert L. Lovelace and Evelyn B. Simpson, *Narrative Report of the 315th Air Division (Combat Cargo) Participation in French Indo-China*, (Maxwell AFB: AFHRA, Sep 1, 1954), p. 4; see also Jules Roy, *La Bataille de Diên Biên Phu* (Paris: Julliard, 1963), p. 562.

operation.[29] Additionally, the weather would soon become unfavorable, placing a critical limitation on the airborne supply process.[30] Jules Roy said it best when he wrote:

> Colonel Nicot's opinions were clearer: you could not tamper with loading figures and operational instructions in the face of meteorological or tactical circumstances for very long without running the risk of disaster. In any case, Colonel Nicot's judgment, based on the experience of Na San, was unequivocal and was supported by the warnings the Air Force had been giving for the past year, to Salan as well as to Navarre, with regard to Dienbienphu. The realities of the situation were soon to become plain.[31]

Nevertheless, Navarre was determined to press on with the operation, forcing Nicot to place every available pilot on alert for CASTOR.

The C-119s, located at Cat Bi since 14 November for pilot training, were sparsely used in the early days of CASTOR. The USAF attempted to have twenty-five FAF crews trained in the C-119 and was eventually able to get this number as high as twenty-two, but the issue was always manpower and never aircraft. If the French were to fill every available C-119 at any time during the course of the resupply, they simply would not have had the necessary crews to fly their Dakotas; this manpower issue was realized from

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[29] Nicot physically had sixty-nine C-47s on-hand at the time of CASTOR, but to have sixty-five of these ready for a single mission (over 90% of the entire fleet) was a monumental maintenance task.

[30] It was the potential impact of fall Northeast Monsoon upon air operations that concerned Nicot. He was not alone, as General Blanc, Chief of the General Staff of the French Army later stated in a top-secret meeting that by 15 April, the fortress would be "a marsh" drowned by the monsoon rains." See Fall, *Hell*, p. 108.

[31] Roy, p. 28. Roy states that he has seen a copy of Nicot's pre-CASTOR objection in writing. In Navarre's apologetic, *Le Temps de Vérités* (Paris: Plon, 1979), he flatly denies the statement that Nicot voiced any sort of disapproval on the eve of CASTOR stating, "*Parmi mes anciens subordonnés, s'est manifesté un autre prophète a posteriori, le général Nicot qui, colonel à lépoque de Diên Biên Phu, commandait l'aviation de transport. J'ai dit qu'au moment où fut décidée la création du camp retranché, il avait fait verbalement (et hors de ma présence) quelques remarques sur les charges que cette décision imposerait à ses unités mais ne les avait nullement déclarées insurmontables*" (p. 431). Given the tremendous imposition and strain the entire Diên Biên Phu campaign placed on Nicot's transports, as well as the outspoken demeanor of the transport commander, this denial by Navarre appears to be a case of selective memory. An interesting biographical note on Nicot: in 1963, when Roy published his book, Nicot was in prison at Tulle for helping General Challe fly to Algiers in a military aircraft.

the start, but a workable solution was not finalized until March 1954 when CAT pilots came on the scene. But until the arrival of CAT, Nicot was nevertheless in a quandary—he could either use his familiar Dakotas to the fullest, earmarking only and handful of his pilots for the C-119 detachment, or he could make use of the tremendous airdrop capability of the Packet, but at the expense of flying his C-47s. Curiously, Nicot chose the former route, using his pilots to maximize C-47 sorties, while making piecemeal use of the Packets.

The advantages of the C-119 were obvious; it could fly faster and farther, and carry more cargo than any other in-production airdrop platform in the world. It could also be loaded with tremendous ease, as the cargo compartment stood at the same height as a standard flatbed truck. This inclined Colonel Maurice Casey, commander of the 483^{d} Troop Carrier Wing (TCW), to expect the FAF to favor the Packets *over* the Dakotas—an expectation that was confirmed on 27 November when the FAF dispatched seven crews to Clark Air Base in the Philippines to receive transition training, augmenting the number of qualified Packet crews. They quickly accomplished the fourteen hours of instruction, and returned to Haiphong, bringing the number of qualified crews to eighteen. Five days later, however, Casey reported that only six FAF crews were available at Cat Bi. This was puzzling to the Americans, who assumed the FAF would devote most of their pilots to the Packets.[32] But the potency of the C-119, as seen by the USAF, was not viewed as so incredible to the FAF, as there were distinct drawbacks to using the newer aircraft.

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[32] Lovelace, p. 5.

No source explicitly states the reasons behind the French penchant for the C-47, *vis a vis* the C-119. One clue as to why the FAF leaned toward the C-47, however, comes by way of an offhanded comment made by an FAF pilot who flew both C-47s and C-119s at Diên Biên Phu. Marc Bertin's diary states that while the C-119 required two pilots (which it did), the C-47 only required a single pilot (which in theory it did not—the flight manual called for two pilots). It appears that confronted by a shortage of pilots, Nicot and his subordinate commanders authorized the use of a single pilot for the smaller, simpler Dakota in order to get the mission accomplished (a shortcut that would have been impossible in the technically complicated C-119). Surely, the distress Nicot had expressed to Navarre regarding CASTOR on 11 November was the result of bona fide concerns over a real limiting factor. Nicot had been assured more French aviators would be sent from home with the arrival of US aid, but political and budgetary constraints overruled this illusory promise.[33]

Several other factors caused the French to favor the "Dak" to the "Pack." First, by January 1954, Nicot's transports were responsible for servicing an estimated fifteen different garrisons in North Vietnam, and it is doubtful that the heavier and more fragile C-119 could succor these obscure locations.[34] Small rocks and debris at austere airstrips posed a continual threat to the C-119's delicate propellers. Also, the aircraft's weight,

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[33] Bertin's comment on the "solo" flight of the C-47s (using a single pilot, rather than a pilot and copilot) concurs with the observations of Lt. Col. Jack McDonald, USAF, Retired. McDonald was a communications technician deployed to Do San airfield from February to May 1954, and witnessed firsthand the solo use of the Dakotas, recalling the practice as "a standard operation" under the strain of the FAF pilot shortage. Lt. Col. Jack McDonald, telephone interview by the author, Fairfax, Virginia, 23 October 2000. See also Bertin, p. 24; Fall, *Hell*, p. 2.

[34] Three of these fifteen (Diên Biên Phu, Xieng Khouang, and Pleiku) were dependant *exclusively* on airlift. Edgar O'Ballance, *The Indo-China War 1945-1954: A Study in Guerilla Warfare* (London: Faber and Faber, 1964), p. 210.

almost three times that of a C-47, made its use problematic on unimproved surfaces. Dirt runways were possible (but certainly not welcomed), so long as the surface was dry and hard-packed, lest the wheels bury themselves into the ground. Runways made of PSP were possible as well, but a heavy Packet would often jar the plates out of position, necessitating a standby engineering crew for the express purpose of runway maintenance. Even at Cat Bi, the home base of the Packets, the runway's PSP continually got out of joint, causing headaches for the airfield's management, and eventually forced the relocation of the Packets to Tourane (Da Nang) on 22 May 1954.[35]

The use of C-119s at austere locations was not only physically challenging for the airplanes, but the presence of an enemy threat at fields like Diên Biên Phu precluded any airland missions in lieu of airdrop. Among the panoply of various logistical vehicles, airdrop was considered among the least efficient. It was both time-consuming, in the preparation of loads for drop, as well as expensive, as parachutes and rigging material (not to mention aircraft) were exhausted at an enormous rate.[36] But the $500,000 C-119 was considered too valuable for cavalier use, and if the poor runway at Diên Biên Phu discouraged its use as an airland vehicle, the threat of Viêtminh attack committed the Packet to an exclusive airdrop mission.[37]

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[35] The use of the heavier C-119's also took a toll on the already deteriorated runway at Cat Bi. This in-turn became hazardous to the aircraft and their props. See Maj. General Maurice Casey, interview by Col Ray Bowers, 24 May 1971, Tape recording, US Air Force Historical Research Agency, Montgomery, AL; Lovelace, p. 33.

[36] The resupply of Diên Biên Phu used 82,926 parachutes (including 3,763 large cargo parachutes). The continual supply of parachutes from the US to Hanoi and Haiphong was a logistical feat in itself. See Fall, *Hell*, pp. 248-49, 411; Jean Pouget, *Nous Étions a Dien-Bien-Phu* (Paris: Presses de la Cité, 1967), p. 362.

In addition to the problems the Packets had with many of the runways in Vietnam, the actual airplanes themselves were more complicated than the simpler C-47. The Packet was more maintenance-intensive, required a more involved preflight inspection, and operated on electrical instrumentation and accessories in the cockpit, forcing the use of a backup generator during critical phases of flight.[38] Another disheartening quality of the Packet came during single-engine flight. In the event of an engine failure,[39] single engine flight could not be maintained under 7,000 feet altitude at gross weights above 64,000 pounds; in order to maintain altitude, it was necessary to jettison excess cargo, and that could only be done if the clam shell-doors had been removed before flight. Otherwise, the plane would have to make an emergency landing on a nearby runway, or

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[37] A short anecdote is revealing. On 13 December, FAF Capt Oustric experienced a catastrophic engine malfunction with his C-119 following his drop and was forced to land at Diên Biên Phu. As only USAF mechanics had the technical expertise to effect such a repair, the question was raised to the MAAG concerning the issue of sending Americans behind enemy lines. The MAAG and FEAF allowed a USAF crew to fly a French-marked C-119 to Diên Biên Phu with the replacement engine on 18 December. The aircrew remained overnight at the fortress while the repairs were made, sleeping in their Packet. In the event that Diên Biên Phu came under attack, the Americans were to dress in French uniforms and escorted to the garrison's command post. Fortunately, the repairs were completed the following day, preventing any such diplomatic unpleasantness. This was the first and last Packet "rescue mission," as the threat of attack by the Viêtminh only increased with time, and the concern over leaving American troops potentially trapped if the fortress came under siege was of greater consequence than the loss of an airplane (Lovelace, p. 20; Casey interview).

[38] The backup generator would be turned on in the event that the aircraft's main generators, driven by the motors, failed during an untimely part of a mission. Standard instrumentation, like airspeed, altitude, and vertical velocity would not be affected by a power failure (as these were pitot-statically driven), but all other engine, fuel, and accessory instruments, independent of the aircraft's main electrical system in the C-47, were centrally powered in the Packet. This was a discomforting aspect to pilots new to the Packet—in the same way that pilots "raised" in the 1960s and 70s would be uncomfortable with the reliance of modern aircraft on intricate computer systems.

[39] The Pratt & Whitney R-4360-20 engines developed 3,500 hp each, but were troublesome as the sparkplugs regularly failed, resulting in a shutdown. One primitive practice developed to keep the sparkplugs clean was to inject fuel directly into the cylinders, one engine at a time, every two hours, clearing any fouled plugs. See Bertin, pp. 36-38; Albert Grandolini, "French 'Packets:' Fairchild C-119 Boxcars in French Indochina," *Air Enthusiast*, November/December 1996, p. 55.

even worse, make a crash-landing—a maneuver it performed very badly.[40] All of these facets—fragile props, weight with respect to runway, electrical cockpit, maintenance complexity, and emergency flight characteristics—although discomforting to the FAF's World War II era aviators, were bearable but not welcomed, as Nicot allotted only a handful of his pilots to fly the USAF-loaned Packets.

The French Packets were organizationally placed in a small detachment commanded by Captain Soulat within the *2/63iem Transport Group*, and despite misgivings about the aircraft, the C-119s were an indispensable part of the initial assault on Diên Biên Phu.[41] Bulldozers were needed to fill the nearly 1,200 holes in the existing dirt runway, as it had been sabotaged by the Viêtminh, and the C-119 was the only transport able to airdrop such a load. On the second day of CASTOR, two Packets appeared over the valley; the first, piloted by Captain Soulat, carried a bulldozer, while the second, piloted by Captain Magnat, carried the blade. Soulat released his payload over the DZ, but the shock of the seven-ton bulldozer against the 9,000 square feet of canopy snapped the parachute attachment coupling, and one of the largest pieces of equipment ever dropped from an airplane buried itself 10 feet into the soft earth of the

[40] According to Casey, the C-119 was an "aluminum eggshell," much more fragile than the C-47 or C-46; as such, an attempted crash landing would be "disastrous" as the aircraft would likely overturn rather than glide on its belly (Casey interview).

[41] Transport Command was comprised of four groups of C-47s: 1/64 "*Béarn*," 2/63 "*Sénégal*," 2/64 "*Anjou*," and 2/63 "*Franche-Comté*." Fall, *Hell*, p. 485.

drop zone. Two days later, on 23 November, Soulat repeated "Operation Bulldozer," this time successfully, and the runway was ready for traffic by the morning of the 25th.[42]

While the C-119s made infrequent airdrops over Diên Biên Phu, FAF Dakotas began a full-fledged airland effort. On 28 November, C-47s unloaded eight 105mm howitzers of the *Batterie Autonome Artillerie Laotienne* (Autonomous Laotian Artillery Battery, or BAAL) delivered as a stopgap until regular French artillery was delivered in December. A few days later, Diên Biên Phu requested a light squadron of M-24 "General Chaffee" tanks, which were summarily disassembled in Hanoi for airlift. The eighteen-ton light armor weapons each took five C-47s and two British Bristol 170 Freighters, as ten tanks were delivered by the middle of the month.[43]

On 5 December, fifteen USAF Packets landed at Cat Bi airport under the auspices of the McCarty Plan. The code name for the operation was IRONAGE, as the aircraft loan was classified as a military secret. Members of the 483d TCW had planned for such an operation nearly two months earlier, and upon execution, the planes were flown to Clark to be repainted with French markings, then forwarded to Cat Bi.[44] Maintenance and aerial delivery specialists (load and parachute riggers) from the 8081st Quartermaster

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[42] Fall, *Hell*, p. 16; Bertin, pp. 18, 32. Upon completion, the steel-grid covered runway measured 1,150 meters long and 30 meters wide with "goose-neck" lights for nighttime approaches. The bulldozer drop was particularly impressive considering the fact that the USAF had just tested delivering an object of that size only a year earlier (Peifer, p. 338). Also, Casey, the 483d's commander, stated that to his recollection *USAF* crews dropped these behemoth loads (see Casey and McDonald interview). It is likely that the Packet crews on the bulldozer drops were a mix of FAF and USAF, given the relative inexperience of the French crews, and the potential danger accompanied with a drop of that magnitude.

[43] Fall, *Hell*, pp. 53, 97.

[44] The flight from Clark to Vietnam caused considerable consternation for the USAF, as the route for the 1,100-mile flight went directly over Hainan Dao Island, owned by Communist China. USAF pilots would have had a questionable status in the event of an emergency landing on Hainan, flying airplanes with French markings. The ferry missions between Vietnam and Clark continued nonetheless. See History of 483d Troop Carrier Wing, (Maxwell AFB: AFHRA, 1 Jul. to 31 Dec. 1953).

Fig. 2.4. Painting FAF roundels at Clark. From Bowers, *Tactical Airlift*, p. 14.

remained in Vietnam, while the aircrews who had delivered the planes returned to Ashiya. The transfer went smoothly, and by 1730, twelve planes were at the disposal of the FAF. Under the original IRONAGE provisions, planes were only on-loan for a five-day period, but in light of the operationally critical situation at Diên Biên Phu, the initial deployment was stretched to fifteen days. The compelling factor was that French intelligence had been tracking sizeable elements of Giáp's army moving toward the base. That in turn forced Navarre to make a decision—would he accept battle, or would he evacuate the garrison? He had not wanted a major campaign with Diên Biên Phu—that was intended for the up-coming year. But on the heels of a success at Na San, on 3 December Navarre decided to accept battle, and as such, he needed a sizeable airlift effort to maintain his mooring point as well as put spikes on his hedgehog.[45]

Two days after the arrival of the USAF fleet of Packets, one of the reasons for Navarre's occupation of Diên Biên Phu began to evaporate, as General Cogny launched Operation POLLUX. This plan called for the evacuation of French Regulars and civilians from the air-land base at Lai Chau, threatened by the advancing Viêtminh 316th Division. The airlift portion of the mission was called LEDA, and took 183 sorties to empty the base of its hodge-podge group of Vietnamese, Moroccan, T'ai, and Senegalese soldiers. This evacuation, along with Navarre's announcement accepting battle four days prior,

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[45] Lovelace, pp. 21-22, Fall, *Hell*, pp. 44-5.

served to further solidify the notion that Diên Biên Phu was a means in itself, rather than a means to an end. But if this was the case, the redirection of airlift assets *away* from Diên Biên Phu was neither wise nor prudent.[46]

The weather at Cat Bi began to worsen in the middle of December, as all flying was cancelled on the 16th.[47] This trend was accompanied by another—on the 17th a Packet piloted by FAF Capt Brit experienced an airdrop malfunction. As his aircraft flew over the DZ, the mechanism that held the cargo in place for gravity extraction failed to release the cargo. As the kickers moved to re-secure the load, the mechanism gave-way, dropping the cargo well north of the drop zone. Like the problematic bulldozer a month earlier, malfunctions of this sort were to become common-place as the airlift intensified.

IRONAGE came to an end on 21 December.[48] As December wore on, it became obvious that the airlift need was to exist almost indefinitely, prompting a "new" operation

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[46] LEDA is the mythological mother of CASTOR and POLLUX. Fall, *Hell*, pp. 53, 63-4.

[47] Bertin records an interesting, yet untried answer to the foul weather problem. Some inventive peers proposed tethering a weather balloon abeam the "T" on the drop zone, sending it aloft to be seen by aircraft above the clouds. If the winds were light, crews could drop with reference to the balloon, while keeping out of sight of the enemy (Bertin, p. 48).

[48] IRONAGE totaled 187 missions in the delivery of 1,084 tons of cargo with 600 total flight hours. During the fourteen days of flying (Dec 16 was a weather day), the operation posted a meager daily average of 13.4 sorties. With twelve airplanes at the disposal of Soulat's detachment, the French should have been able to *comfortably* fly almost sixteen missions per day. This is based on a hypothetical maintenance in-commission rate of 66% (using two-thirds of the available twelve airplanes) flying two sorties a day. Each mission dropped just under six tons of cargo, and had the FAF Packet detachment had enough pilots at their disposal, an *easy* 224 missions could have potentially been flown, delivering a hypothetical 1,300 tons of cargo—an additional 20%. Again, this is assuming a relaxed maintenance rotation, as the airplanes required periodic repairs that took several days. Had the C-119s been flown to a "maximum effort" capacity (based on the recorded maintenance-ready rate), it could have been possible to deliver over 1,600 tons (averaging twenty sorties a day), boosting the delivered cargo weight over 55%. This under-utilization of the 483d's C-119s bothered Casey, who forced Soulat to daily sign a document stating the number of aircraft the USAF mechanics made available to the FAF. As early as December 1953, the USAF commander feared the French would lose Diên Biên Phu because of a lack of air supply. If this premonition became true, Casey did not want the FAF pinning the blame on a lack of US support. Casey was impressed with the courage and devotion of individual French pilots and staff personnel, but

on the following day, unimaginatively labeled IRONAGE II. This sequence of operations would continue back-to-back through August of 1954.

IRONAGE II: 22 December to 8 January

IRONAGE II went for eighteen days, starting 22 December and ending 8 January 1954. During this period, the need for more pilots became pronounced as Navarre gradually became convinced—or so we surmise from his actions—that Diên Biên Phu was to be a hedgehog and not a mooring point. More supplies were needed to prepare the camp for such a role. On 26 December, the camp's commander, Colonel de Castries, directed that all of his positions be fortified to resist artillery shells of 105mm caliber. Major Sudrat, de Castries' chief engineer, calculated the required material based upon standard directives, figuring that 36,000 tons of engineering supplies and equipment were needed to execute the order. The sparse valley offered little by way of the required timber, as only about 2,000 tons could be locally collected.[49] This meant that 34,000 tons would theoretically need to be airlifted to Diên Biên Phu—this in addition to the needed daily drops of food and ammunition. The magnitude of this figure was considered a foregone impossibility to the French High Command, and as such, only 4,000 tons of engineering materials were planned for the fortress. Besides, Navarre regarded Diên Biên Phu as a secondary issue in comparison to his Operation ATLANTE planned for the

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was unimpressed with the overall motivation of the government in Paris to do what was needed to assure victory. His doubts were not unfounded. See Casey Interview, History of the 483^{d}TCW (1 Jul. to 31 Dec. 1953); Bertin, p. 34. Bertin claims the FAF transports flew everyday (except the weather day on the 16th) without a stop during IRONAGE, physically exhausting the crews.

[49] Additionally, the French radius of movement while foraging for timber was undoubtedly restricted by the arrival of Giáp's 308th Division on 23 December (Davidson, p. 208). History of the 483^{d}TCW (1 Jul. to 31 Dec. 1953); Fall, *Hell*, pp. 88-90. The exact breakdown of the material actually delivered included 3,000 tons of barbed wire and accessories, 510 tons of PSP (airfield steel-plate

next month. He treated reports of a Viêtminh advance towards Diên Biên Phu as a ruse and continued to issue orders to conduct reconnaissance *sorties*, forfeiting valuable time and resources in the strengthening of the fortress.[50]

The de Castries order was prompted by intelligence that showed elements of three Viêtminh divisions arriving around Diên Biên Phu. What had begun with a strong sense of bravado in the *herisson* slowly became questionable, as Navarre issued a top-secret directive on 29 December, discreetly ordering Cogny to draw up plans for a fighting withdrawal from Diên Biên Phu. Plans XENOPHON and ARIANE were the result, as the utmost secrecy was exercised to not damage the morale of the fortress' troops. On 1 January 1954, Navarre again displayed shaken confidence, as his annual report to Paris stated that "with the arrival of new means [from Red China], I can no longer guarantee a successful outcome [at Diên Biên Phu]."[51] Despite Navarre's doubt, he still pressed ahead with Operation ATLANTE in central Annam, committing a sizeable number of troops and air transports. This put Nicot in the position of trying to draw blood from a stone. His nearly seventy Dakotas were being heavily pushed, along with his transport crews in general. The ten crews dedicated to Soulat's C-119 detachment had flown

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material), 44 tons of Bailey bridge elements (used to span the Nam Yum River within the fort), and 23 tons of mines and other booby traps.

[50] The staffs of Navarre and Cogny differed in their view of the function of Diên Biên Phu, with the divergence becoming more acute as the battle approached. Even as early as the beginning of January, Cogny's deputy chief of staff, Lt. Colonel Denef expressed to his boss the hopelessness of the French garrison, surrounded by a full corps of Viêtminh. But even the selection of de Castries, a career cavalryman, as commander of the base showed Navarre's offensive mindset in using the base as a stage from which to launch limited assaults (Fall, *Hell*, pp. 84-85, Davidson, p. 205).

[51] Fall, *Hell*, p. 48. Operation ATLANTE took place in northern Annam, committing a sizeable number of troops and air transports. This withheld vital airlift resources from Diên Biên Phu.

nearly everyday without a break, stretching the crews to the point of exhaustion; the cries for more manpower were finally expressed to Washington via Paris.[52]

Early in January 1954, Washington alerted Civil Air Transport's Alfred Cox regarding the potential need for Packet pilots. Cox immediately sent twenty-one of his pilots who had participated in French airlift operations the previous spring to Ashiya AB, Japan, for refresher training in the C-119, in an operation dubbed SQUAW II. The CAT crews were trained and returned to Taiwan, but were not used for the next two months. Despite the pressure in Vietnam, the French government showed little urgency in its call for more pilots, as the fear of instigating a Chinese reaction by using Americans based out of Taiwan (and friendly with Chiang Kai-shek) again stymied negotiations. The contract between the FAF and CAT would not be signed until the beginning of March.

Meanwhile, a string of C-119 airdrop malfunctions occurred around New Year's Day, closing the FAF's year on a dour note. On 31 December, Capt Coudon approached the drop zone on altitude and airspeed, but his cargo restraint mechanism released early, dropping the supplies far south of the DZ and most likely into Viêtminh hands. On 4 January, Capt. Dompnier's load jammed and refused to exit. The worst of the malfunctions happened on 3 January, when the quick-release during a drop opened prematurely, dumping the entire cargo into the French trenches, killing two soldiers and wounding five. The ripple effect of this event created a sense of "general dejection...exhaustion...and guilt" within the Packet detachment.[53]

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[52] Bertin, p. 34; Leary, *Perilous Missions*, p. 181. The following month would be no easier for the aircrews; Bertin recorded forty-five combat missions and 140 hours of flight time during the month of January alone (p. 64).

[53] Bertin, pp. 47-49.

As Giáp's troops and supplies continued to stream towards Diên Biên Phu, the French sought to boost their interdiction efforts with airstrikes. The paucity of attack and bomber aircraft led to the FAF to request permission to use the C-119s as "napalm bombers" to eradicate enemy troop emplacements and interdict lines of communication. The request eventually made its way to the Pentagon, where it was initially denied. The USAF had tried the same tactic with their transports in Korea, yielding only marginal results. The French were asked to give the napalm mission to the B-26s, but the FAF persisted with the request to use Packets. The approval would eventually come, but not until the situation in the valley became much worse.[54]

IRONAGE III: 9 to 16 January

IRONAGE II ended on 8 January with IRONAGE III beginning the next day and running for eight days with eighteen Packets available to Soulat's detachment.[55] This operation posted the largest numbers of any of the pre-siege operations.[56] Two days prior to the start of IRONAGE III, French intelligence picked up the movement of 37mm

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[54] By the time napalm was approved on 22 March, the more immediate threat was flak suppression, not interdiction. See Davidson, p. 217; Lovelace, p. C-3. Another, more sinister, reason that the C-119s were requested as napalm bombers was expressed by French Chief of Staff, General Ely, to Col Casey. Ely asserted that if France lost a fighter or bomber, "that was the end of that," but if a *Packet* was lost, the FAF could just get another from the USAF. This was true in the sense that the delivery of strike aircraft under the MDAP provisions were more time-consuming than obtaining a borrowed C-119 (Casey interview).

[55] The C-119 daily in-commission rate was 87% for IRONAGE II. The totals for the operation came to 156 sorties flown, 936 tons dropped using 492 flying hours. The daily number of sorties averaged less than nine per day, much lower than possible. As with the first IRONAGE, with twelve planes available to the FAF for IRONAGE II, an 87% in-commission rate meant that a hypothetical 10.4 airplanes were ready to fly two missions on any given day. This translates into the potential to fly up to twenty-one missions a day—more than *doubling* the output of the operation. Col. Casey's complaint regarding the under-utilization of his loaned airplanes continued to be valid.

[56] When IRONAGE III came to an end, 894 tons had been dropped by an average of almost 20 sorties a day. This average supply of 115 tons a day would not be matched until after Giáp's forces attacked in March.

antiaircraft artillery (AAA) batteries in the direction Diên Biên Phu.[57] The units in question were elements of the four Viêtminh AAA battalions that had undergone training in China from air defense specialists who had just finished fighting in the world's first jet versus jet war in Korea. The Soviet-made M-1939 37mm guns were venerable weapons from World War II, capable of firing 160 to 180 rounds per minute to an effective ceiling of 10,000 feet.[58] *Deuxième Bureau* radio intercepts also noted the stockpiling of a large cache of Soviet-made 37mm ammunition. The US Army attaché in Saigon became involved in the issue and requested that the USAF send experts in air defense to make an independent assessment—after all, it was the USAF's Packets that were to be on the receiving-end of any AAA. Between 16 January and 5 February, Captains Robert Lloyd and Robert Hicks visited Vietnam as the appointed experts. They warned that the guns sited along the limited air approaches (north and south of the field) would have "considerable success" against low-flying transports. This was hypothetical, however, predicated on the presence of antiaircraft artillery in the Diên Biên Phu basin. As Hicks and Lloyd studied the photographs, they detected no gun emplacements, concluding that the French had overestimated the threat. The "experts" could not have been more wrong. Packets had been fired on over Diên Biên Phu as early as 10 January when aircrews reported being shot at with bursts of 37mm fire.[59] These initial engagements were

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[57] Bertin, p. 51

[58] Christopher Foss, ed., *Jane's Armour and Artillery*, 7th ed. (London: Jane's Publishing Co., 1986), pp. 718-19; Ian V. Hogg, *Anti-Aircraft: A History of Air Defence* (London: MacDonald and Jane's, 1978), pp.166-7. The Soviet-made weapons arrived in the valley in force by 11 February (Fall, Hell, p. 101).

[59] It is doubtful that the aircrews were in error, as the fire from a 37-mm antiaircraft piece was unmistakably characterized by a string of five closely spaced whitish-gray airbursts.

inaccurate and haphazard, yet they marked the slow beginning of Giáp's air defense effort. Even if Lloyd and Hicks were correct in their analysis of the overhead imagery, it would be an acute case of military myopia to assume that the Viêtminh did not realize that the key to the French supply system was airpower.[60]

IRONAGE IV: 17 to 31 January

On 16 January, IRONAGE III came to an end with IRONAGE IV beginning on the following day. And although the mission had posted tremendous airdrop numbers for only an eight-day operation, the 483^{d}'s C-119s were nevertheless continually under-utilized. A total of eighteen aircraft had been loaned, but the mission could have been accomplished with half that number of airplanes. The limiting factor had again been the lack of available C-119 pilots. The French Air Force admitted this deficiency and surrendered six of the aircraft back to Ashiya, where the planes were needed for busy day-to-day FEAF airlift operations. Thus, IRONAGE IV began with only twelve aircraft and went for nearly two weeks, dropping an average of eighty tons per day as Diên Biên Phu prepared for battle.[61]

One reason for the decline in available FAF C-119 pilots was the forecast need for crews to fly C-47 missions in support of Navarre's Operation ATLANTE. Starting on 20 January 1954, ATLANTE was aimed at subduing Viêtminh resistance in coastal Annam south of Tourane (Da Nang) and north of Nha Trang. The three-phased offensive called for a graduated increase from twenty-five infantry and three artillery battalions, to forty-five infantry and eight artillery battalions. Navarre's judgement in launching ATLANTE

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[60] Futrell, *USAF in SEA*, pp. 17-18.

[61] History of the 483^{d} TCW, *Wing Review* (1 Jan. to 30 Jun. 1954)

in the face of Diên Biên Phu was questionable, but he claimed that his forces in the south were already committed to containing the 30,000 Communists in this region, so to launch an offensive was not a violation of military economics. He also hoped that such an attack in the south would draw Giáp away from his northern Tonkin advance. The logic behind this judgement is questionable, since the Viêtminh—totally dependent on foot mobility—could hardly have covered the distance in time to have effect.

Cogny complained bitterly that ATLANTE kept ground troops from his command in the north; and while the validity of this objection continues to be investigated by historians, the diversion of limited airlift assets is an established fact. Three weeks earlier, Diên Biên Phu's chief engineer had requested an enormous tonnage of supplies to ready the fort for attack—a request that had been dismissed as an impossibility. But Navarre's casual attitude toward the failure to adequately fortify Diên Biên Phu was critical to the eventual outcome of the battle. He and Cogny assumed that over 30,000 tons of needed fortifications were an unachievable absurdity, and although this figure may have been severe, diverting airlift away from the fortress would prove to be disastrous.[62]

The last week of January marked a significant turn in the coming battle. On 23 January, the Viêtminh 57th Regiment completed its forced march to Diên Biên Phu, giving Giáp a complete army corps worth of infantry with supporting artillery and antiaircraft guns. With his force assembled, Giáp contemplated attacking on the 25th, before the French could get deeply entrenched in their fortifications, but made his "most

[62] Fall, *Hell*, pp. 45-47.

difficult decision" in delaying the assault.[63] On 31 January, in honor of *Têt*, the Vietnamese lunar New Year, the Viêtminh shelled Diên Biên Phu for the first time. The attack lasted thirty minutes, consisting of 133 rounds of 75mm ammunition fired from concealed bunkers on the slopes overlooking the fort. The French responded with 1,650 rounds of 105mm counter-battery fire, while B-26s dropped 158 bombs, which resulted in three injured Communists, and one destroyed field kitchen. What should have served as a stiff warning to the French was instead essentially dismissed as an enigma.[64]

In both Paris and Washington, the impact of the undermanned air units continued to be an issue. The Eisenhower Administration was determined to keep US airmen out of harm's way by not allowing USAF pilots to fly support to Diên Biên Phu. Instead, Washington resolved in mid-January to send more strike aircraft and mechanics to Vietnam; so on 2 February, secret operation REVERE was launched, sending maintenance depots to Tourane for B-26s and to Do Son for C-47s. FEAF also lent a squadron of its own B-26s to the FAF to reinforce the interdiction effort in the north. Eisenhower was uneasy about the French hopes for victory at Diên Biên Phu, and if he could not help on the battlefield directly, he did all he could with planes and personnel to vicariously defeat the Communists.[65]

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[63] Davidson, p. 208; Giáp, *Diên Biên Phu: The Most Difficult Decision and other Writings* (Hanoi: GIOI Publishers, 1992).

[64] Roy, *The Battle of Dienbienphu*, p. 127.

[65] Futrell, *USAF in SEA*, p. 19.

IRONAGE V: 1 February to 12 March

The end of January brought the end of one IRONAGE project and the beginning of another. The missions continued with twelve aircraft available to Soulat, as the under-utilization of the USAF maintained C-119s continued. The situation would only worsen, as six of the Packet crews were reassigned to their original C-47 units, leaving a total of four French crews in Soulat's detachment. Also, the threat around Diên Biên Phu was growing with the collection of Viêtminh troops and artillery. Even General Fay, the French Chief of the Air Staff, had showed concern over the inability of his transports to adequately supply the fortress. This had prompted him to offer Navarre a full airpower-assisted evacuation of the garrison, which was politely refused.[66] Meanwhile, as Giáp slowly worked to assemble an air superiority force *sans l'avion*, Viêtminh guerrillas in the vicinity of Hanoi and Haiphong worked to thwart the aerial resupply effort at the point of origin.

At 0015 on 1 February, French troops in Hanoi responded to a nighttime raid on Do Son airfield by Viêtminh guerillas. The Communists had quietly breached the perimeter and affixed plastic explosives to four Dakotas, then moved towards the officer's mess to do the same in an effort to kill any French pilots. The terrorists were abducted after destroying at least two Dakotas.[67] A month later, on the night of 3 March, Viêtminh infiltrators again attached plastic explosives and damaged or destroyed ten civil

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[66] General Fay expressed his trepidation about the future of Diên Biên Phu on two occasions: once, on 19 February, while inspecting the fortress as a member of an entourage that included Minister of Defense Pleven and Chief of Staff General Ely. On 25 February, Fay repeated his discomfort with Diên Biên Phu and personally offered Navarre an air-evacuation of the fortress saying, "I am willing to stay here a week and assume personal responsibility for the operation. I promise you we shall fly out everything we can. And I will give you all the support you need." (Roy, *The Battle of Dienbienphu*, pp. 143-45).

[67] Bertin, pp. 63-65.

aircraft at Gia Lam airport near Hanoi. On the following night, 50 Viêtminh commandos raided Cat Bi airfield at 0230 in the morning, targeting the USAF C-119s. Guards posted on these aircraft succeeded in beating off the attack, but not before the Viêtminh destroyed a B-26 and six Morane-500 Crickets (small liaison-type aircraft), as well as damaging three other B-26s. The enemy's resolve in cutting Diên Biên Phu's umbilical cord was apparent.[68]

While Giáp's forces in the Hanoi/Haiphong perimeter were working to destroy French airpower, an agreement was reached between CAT and the FAF adding twenty-four pilots to the airlift effort. On 3 March, James Kelly, CATs representative in Saigon signed a contract with French authorities that stated that CAT crews would fly "all missions of a logistical nature which might be required, exclusive of any combat missions. Bombardment and dropping napalm will never be required." The French agreed to pay the airline $70 per flying hour with a minimum monthly guarantee of sixty hours.[69]

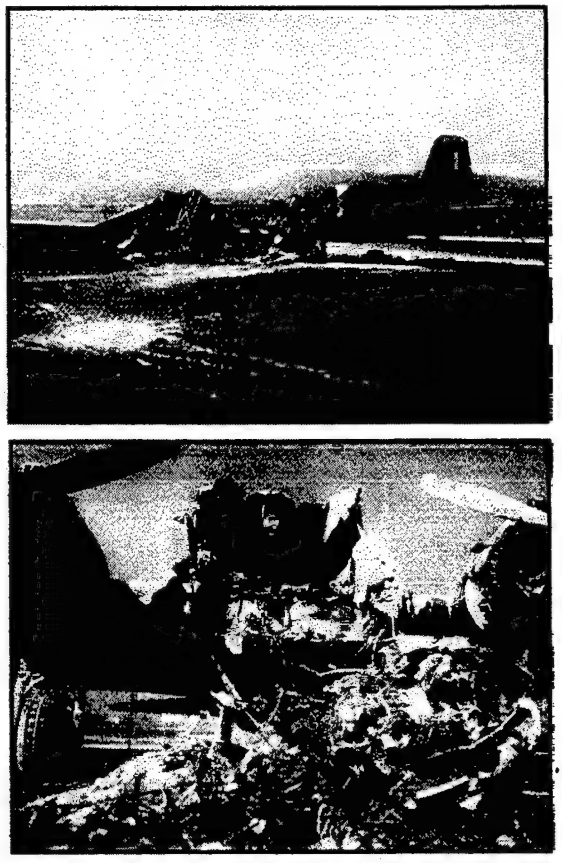

Fig. 2.5. C-47 wreckage after Viêtminh raids on Do Son airfield on the night of 31 January 1954. From Bertin, *Packet Sur Diên Biên Phu*, p.124.

[68] Lovelace, p. 26; Futrell, *USAF in SEA*, p. 18; Fall, *Street*, pp. 262-63.

[69] The individual pilots earned $800 to $1,000 for sixty flying hours a month, with a combat bonus of $10 an hour (Leary, *Perilous Missions*, p. 192).

The first CAT contingent arrived in Vietnam on 9 March, needing a truck to haul their trunks, suitcases, bags, cases of food, and a large refrigerator to the Majestic Hotel in downtown Haiphong. In the spirit of true airlifters past and present, CAT lost no time in getting settled in their new home, as the airline's newspaper later recorded, "Within thirty minutes of moving into the CAT hotel, there was music coming from several tape recorders, the refrigerator was humming, and a snack and refreshment bar had been set up."[70]

The following day, CAT crews moved into their operations building at Cat Bi, shared with the FAF. Maps were studied in detail as ingress and egress routes were scrutinized. Communication procedures, complicated by the language barrier, were reviewed as well. Local familiarization flights were scheduled for the 11th but cancelled due to poor weather. CAT crews finally got airborne on the 12th, flying their orientation missions to Diên Biên Phu. The valley seemed idyllic, with the exception of the burning wreckage of a C-119 that had landed the day prior due to an engine malfunction and been summarily shelled by the Viêtminh. Encountering no hostile AAA, the CAT assessment was that unless conditions changed, the mission would be a "piece of cake." Unfortunately for the CAT pilots, conditions would change, and sooner than they anticipated.[71]

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[70] *CAT Bulletin 7* (April 1954), as recorded in Leary, *Perilous Missions*, pp. 181-183.

[71] Leary, *Perilous Missions*, p. 185.

CHAPTER 3

To Battle: Airlift *dans le Pot de Chambre*

"The greatest secret of war and the masterpiece of a skillful general is to starve his enemy."
Frederick the Great

"In any case, Giáp can't win the battle of Dien-Bien-Phu. He's never done a Staff College course."
A junior officer on Navarre's staff[1]

Two articles dominated the front page of the New York *Times* on 15 March 1954. The first announced the 13 March assault of Viêtminh forces against the French garrison at Diên Biên Phu. The second article reported the effects of a tornado that struck central Georgia, destroying eight C-119s in the Lawson-Fort Benning area. An accompanying photograph showed an obliterated Packet laying on its back at Lawson. Surely this was a harbinger of things to come, as the besieged fortress was dependent on airlift as its sole lifeline—and airlift, though courageous, was breakable.

Fortress Diên Biên Phu

From the first day that French forces arrived in the valley, Diên Biên Phu was built gradually, not as a single fortress, but as a series of complementary supporting strongpoints (reference Figures 3.5 and 3.6, pages 122-23). The central position occupied the remains of the village of Muong Tranh, and was actually composed of four

[1] As told by French war correspondent Brigitte Friang in *Parachutes and Petticoats*, trans. James Cadell (London: Quality Book Club 1958), p. 223.

interlocking positions.[2] These were called Huguette, Dominique, Éliane, and Claudine—supposedly named after former mistresses of the camp's commander.[3] These positions were further sub-divided into individual strongpoints and labeled numerically (Huguette 1, Huguette 2, etc.). The broad central position was manned by five infantry battalions, a 105mm howitzer battalion, and four 155mm howitzers. This central point also housed the two reserve battalions; the 8th BPC and the *1er Bataillon Etranger de Parachutistes* (1st Foreign Legion Parachute Battalion, or 1 BEP). These reserves, along with seven M-24 General Chaffee light tanks comprised the main counterattacking force.

Satellite positions Anne Marie, Gabrielle, and Beatrice were also established to the northwest, north, and northeast, commensurate with the suspected Viêtminh route of attack. Each housed a single battalion. Seven kilometers to the south was strongpoint Isabelle, containing two infantry battalions, two 105mm artillery batteries, and three light tanks. The purpose of Isabelle was to cover the main position with artillery fire, as well as house an additional counterattacking force.[4]

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[2] Françoise was not a strongpoint but a *sonnette*, or "doorbell" designed to warn units located behind this position of an enemy attack. It was held by a T'ai company and abandoned the night of 2 April 1954. See Fall, *Hell*, p. 112, 122.

[3] The source of the names has never been verified. Incidentally, several positions did not have feminine names: Opéra, named for a Parisian subway station; Epervier, or "Sparrowhark," and LeTorpilleur, "the torpedo boat" (later renamed Gabrielle). Fall, *Hell*, p. 62.

[4] The placement of this final position has been criticized by military analysts, as the base was too far away to lend artillery support to the northern satellite points, and too far for a rapid response by ground troops (Davidson, p. 228). Strongpoint Marcelle is an oft-overlooked position that was located between the main body of the fortress and Isabelle. It was created on 12 January by a detachment of the *3e Bataillon, 3e Régiment Etranger d'Infanterie* (3d Battalion, 3d Foreign Legion Infantry Regiment, or 3/3 REI), and later garrisoned by the 434th T'ai Company. This small force evacuated to Isabelle on 14 March. Fall, *Hell*, p. 112.

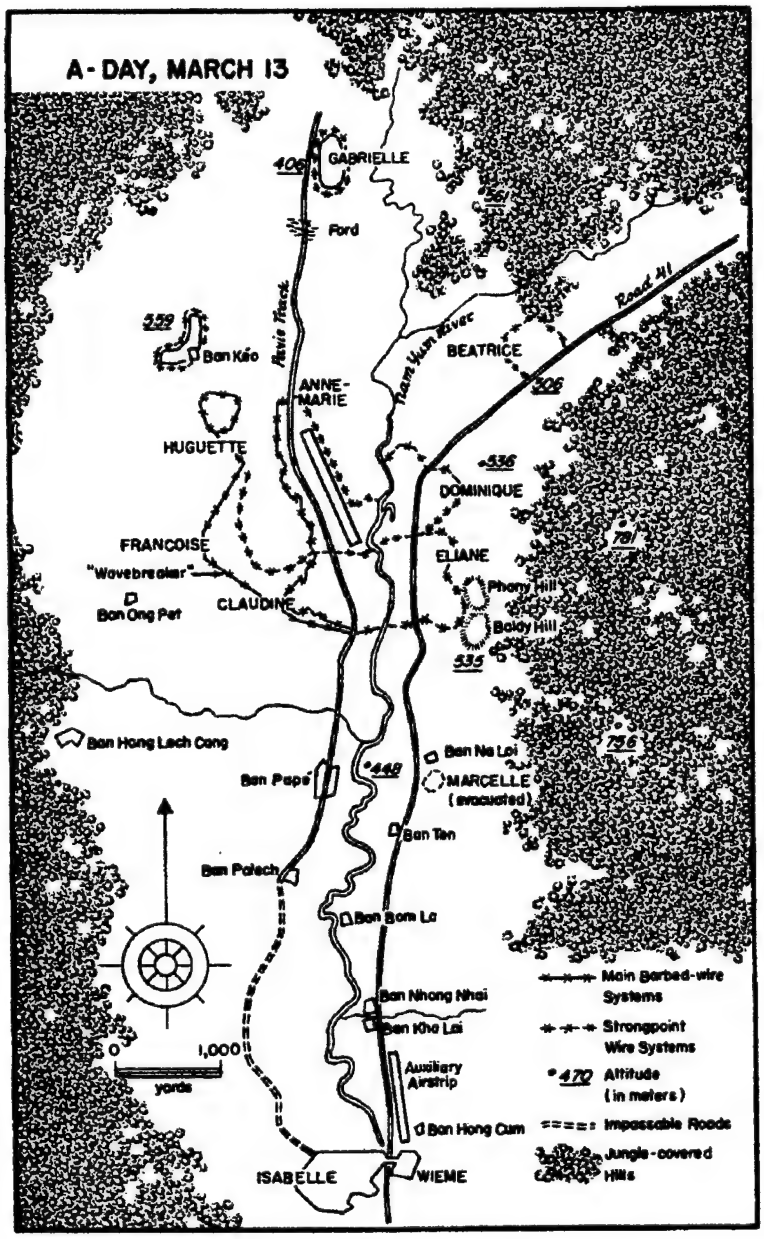

Fig. 3.1. French Positions on 13 March 1954. From Fall, *Hell*, p. 117).

When the battle began, Diên Biên Phu had two operational airstrips; one runway was a dirt strip located just north of Isabelle, but was for reserve use only. It never saw operation during the campaign; by the time the main airfield became unusable, the southern strip was already under attack.[5] The primary runway had been operational since the end of November, and measured 3,500' in length. It was constructed of pierced steel planking (PSP) laid on smoothed

[5] This dirt runway had been tested for use prior to the battle by supporting an empty C-47 landing (Fall, *Hell*, pp. 94-95).

dirt. This runway was able to support any of Diên Biên Phu's aircraft, and was controlled by the air traffic element led by Captain Jean Charnot.[6] Known officially as "Air Base 195," the main runway at Diên Biên Phu had been hit by enemy artillery eight times between 1 February and 12 March 1954. Each time, combat engineers were forced to weld and patch the breaks in the surface in full view of enemy artillery and snipers, a task that they unfortunately became increasingly familiar with as the runway was a regular target for the Viêtminh. Strongpoint Anne Marie was responsible for defending the northern portion of the runway, while the bulk of the field lay within the confines of Huguette. Any attack aimed at disabling the fortress' link with the outside world would surely be concentrated against these points.[7]

While the aircraft positioned on Diên Biên Phu were dedicated to the defense of the base, it was the C-47s and C-119s stationed around Hanoi and Haiphong that provided the fortress' logistical succor. At the start of the battle, there were twelve C-119s at Cat Bi flown by FAF and newly arrived CAT crews. Four more aircraft were added by 18 March, with the number growing to twenty-nine Packets later in April. Nicot's C-47 force numbered seventy-one aircraft on 20 November 1953, with approximately the same number available on 13 March 1954.[8]

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[6] C-119s made sporadic use of the runway for three reasons: FOD, weight, and threat. FOD, an aviation moniker for "foreign object damage," was a problem as debris covered the PSP surface and was hazardous to the Packet's fragile propellers. Next, the weight of the Packet during landing and taxi often worked the runway's plates loose, requiring frequent repositioning. Finally, as the threat around Diên Biên Phu increased, so rose the unwillingness to throw the $500,000 C-119 into the fray.

[7] Davidson, pp. 228-29; Fall, *Hell*, pp. 94-95, 122, 134-35.

[8] An exact count of C-47s at the start of the battle is unavailable in current published sources. Phillip Davidson's estimation of sixty to seventy-five light transports is reasonable, as it would account for the loss of some Dakotas (due to accident or enemy destruction) between 20 November and 13 March, as well as the addition of French civilian carriers operating in the theater. Both Fall and Roy give an

The overall commander of the fortress was Colonel Christian Marie Ferdinand de la Croix de Castries, born in Paris in 1902. Looking every bit the blue-blooded aristocrat he was, de Castries came from a long line of soldiers with military ancestors dating back to the Crusades. Although born a child of the upper class, he scorned St. Cyr, the regular route for officership, and enlisted as a cavalryman at the age of twenty. He eventually was recognized as an officer candidate, and completed the Saumur Cavalry School in 1925. He gained notoriety as a world-champion horseback rider and daredevil pilot, and earned the reputation as a womanizer and reckless gambler in Parisian society. In June 1940, he displayed his courage while holding a position with sixty men for three days against an entire German battalion before being captured and imprisoned in Silesia. His heroism, however, was not without quirks. In 1944, as an armored squadron commander, he reportedly avoided contact with dead or wounded under his command, and almost never visited dressing stations, as "he did not like to come into contact with things that were not beautiful."[9] Following World War II, he served several tours in French Indochina as a cavalry officer, and grew in reputation as a man who was respected by both subordinates and commanders. The stiffest test of his character was yet to come.[10]

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accounting of the Dakotas in the S/GMMTA in November of 1953, but a *detailed* record of the French civilian carriers in French Indochina is absent. Fall briefly mentions the use of commercial airlines in coping with FAF shortages, where civilians flew some combat missions throughout the siege. See Fall, *Hell*, pp. 16-17, 317. As an aside, the Aviation Safety Network records the crashes of two *Aigle Azur* aircraft: a DC-3 on 31 January and a C-46 on 13 March, both destroyed at Diên Biên Phu. A survey of civilian aircraft accidents throughout Indochina during this period shows that civilian carriers were most likely primarily utilized for non-hostile "milk runs,' freeing up the FAF pilots for more hazardous missions. See Harro Ranter and Fabian Lujan, *Aviation Safety Network*, updated 4 January 2000 (http://aviation-safety.net). The number of C-119s made available to the FAF by the USAF is recorded in the official unit histories of the 315th Airlift Division (Combat Cargo) and 483d TCW.

[9] Fall, *Hell*, p. 55.

[10] Fall, *Hell*, pp. 55-56; Roy, *The Battle of Dienbienphu*, p. 313.

The other key leader in the defense of Diên Biên Phu was Lieutenant Colonel Pierre Charles Langlais, whose manner contrasted with de Castries' at nearly every turn. Born in 1909 in Brittany, his sharp features were exceedingly Celtic. If de Castries was known for his disaffected disposition, Langlais was known for his raging temper and an unyielding devotion to his men. St. Cyr trained, Langlais disdained the ostentatious lifestyle of de Castries and chose a much more difficult road—as indicated by his decision to join the *Méharistes*, the prestigious corps of camel-riders who patrolled the Sahara. Following World War II, the hardened Langlais served several tours in Indochina, and was eventually selected to lead de Castries' paratroops at Diên Biên Phu.[11]

The twelve infantry battalions under de Castries' command numbered 10,800 men, of which only about 7,000 were high quality seasoned soldiers. The paratroopers, Legionnaires, and some North Africans were excellent, some fighting in units with legendary reputations. The T'ai units, on the other hand, were more of a hindrance than a help. They were guerrillas, not regular infantry and Viêtminh propaganda convinced many of them early in the battle that this war was not their own. In response, between three and four thousand men fled, many hiding in caves and holes along the nearby riverbank, earning the ignoble title as "the rats of Nam Yum."[12]

De Castries' strategy changed little in the four months before the battle. In a memo dated 19 December, he summarized his vision of the coming battle in three points:

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[11] Fall, *Hell*, pp. 56-57.

[12] Davidson, p. 225; Fall, p. 481.

first, he emphasized the "five[13] centers of resistance which form the infrastructure of the static defense." Next, he wanted the "the ability to concentrate on the battlefield at least four fifths of all firepower available." Finally, he left no room for capitulation; even if his strongpoints were completely surrounded with positions overrun, a local counterattack would be planned to retake the ground, or at worst the position would be destroyed. He wrapped up his directive by stating that "counterattacks will, as a matter of principal, be led by the commander of the 2[d] Airborne Group," Lt Col Langlais.[14]

After January, de Castries was unable to launch any serious spoiling attacks against his enemy, and his strategy remained purely defensive. The ruse could be maintained that Diên Biên Phu was *intentionally* a strategic offensive employed with a tactical defense, but de Castries' was reduced to accept the only plan he could. The best he could hope for was to hold on until mid-May when the Southwest Monsoon would flood the valley making battle impossible, while at the same time hoping to exact a tremendous toll on his attackers by way of fortifications, barbed wire, mines, defensive fire, and counterattacks. It was in this defensive vein that de Castries was at the mercy of his opponent, Viêtminh General Võ Nguyên Giáp.[15]

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[13] Includes Epervier [Sparrowhawk] with the previously mentioned Huguette, Éliane, Dominique, and Claudine.

[14] Fall, *Hell*, p. 96.

[15] Davidson, p. 228.

The Enemy

Giáp was born around 1911 at An Xa in the Quang Binh Province of French Annam.[16] He graduated from the French-run Lycée Albert Sarraut in 1934 and from the University of Hanoi Law School in 1938. Concerned with the social issues in his homeland, he refused a scholarship that offered doctoral studies in Paris, and remained in Vietnam as a high school history teacher becoming active in the Communist underground. He married the daughter of Dan Taï, a dean of faculty of letters, and became a contributor to the newspaper *Le Peuple*. He then met Pham Van Dông and left for China to complete a course in military training. His anti-French sentiments were further hardened when his wife died in a French prison in 1941. Hô Chí Minh then recruited him, and in December 1944 he organized the Viêtminh's first military force—a thirty-four man armed propaganda "brigade."[17]

Fig. 3.2. General Võ Nguyên Giáp. From O'Ballance, *Indo-China War*, p. 113.

Nearly ten years later, Giáp assembled at Diên Biên Phu a force numbering 49,000 combat soldiers, with an additional force of 10,000 to 15,000 dedicated solely to logistical support. The Viêtminh were comprised of the 308th, the 312th, and 316th Infantry Divisions, two independent regiments (the 148th and 57th), and the 351st Heavy

[16] The year of Giáp's birth is reported as 1912 in Harry Summers, *Vietnam War Almanac* (New York: Facts on File Publications, 1985). Jules Roy and John Colvin, *Giap: Volcano Under the Snow*, New York: Soho, 1996, state 1910 as the year of his birth. Finally, the year 1911 is reported by Peter Macdonald in *Giap: The Victor in Vietnam* (New York: Norton, 1993).

[17] Roy, *The Battle of Dienbienphu*, p. 315; Summers, *Almanac*, pp. 177-78.

Division. In all, there were thirty-three battalions—twenty-seven devoted to offensive operations against Diên Biên Phu, and six positioned to block any potential French relief columns. Giáp's heavy division employed 82mm and 120mm mortars, 75mm (pack) and 105mm howitzers, and heavy antiaircraft machine guns as well as 37mm pieces. Later during the battle, this heavy division also acquired and used six-tube Katyushu rocket launchers. The actual number of Viêtminh heavy pieces used at Diên Biên Phu is undisclosed to this day; an assimilation of the various sources estimates twenty to twenty-four 105mm howitzers, fifteen to twenty 75mm howitzers, twenty 120mm mortars, at least forty 82mm mortars, and twelve to sixteen rocket launchers. In the realm of air defense, Giáp most likely had eighty 37mm guns and a hundred AAA weapons of lesser caliber.[18]

In addition to numerical superiority, Giáp's well-trained and highly motivated army also enjoyed positional superiority as it occupied the high ground surrounding the valley of Diên Biên Phu. This allowed not only the continual observation of the exposed French garrison,[19] but also for what Navarre later recorded as "the major surprise of the battle." Giáp's use of artillery was unorthodox, in that he employed "direct fire" versus the classical method of "indirect fire." Indirect fire positioned the artillery pieces out of sight of the target, using forward observers to direct and adjust a battery's shots. This technique afforded protection against counter-battery fire, but necessitated two elements Giáp did not enjoy: it required a high-degree of training among his heavy-gun crews, in

[18] Davidson, pp. 223-24.

[19] Davidson and Fall point out the fact that the French allowed many of their positions to remain uncovered during the campaign, and questions the absence of simple camouflage netting to prevent the disclosure of key targets (Davidson, pp. 230-31; Fall, *Hell*, p. 94).

addition to a reliable communications network with which to adjust targeting. Giáp thus opted for the unconventional, using direct fire, where his crews could "fire down the tube," making their own adjustments to the placement of their shots. Normally this method would leave his guns mercilessly vulnerable to counter-fire, so to address this threat, Viêtminh gun crews dug expansive holes and made use of natural caves to shield their pieces. In many cases, only the end of the gun's barrel was exposed and the weapon would be completely pulled back from view after firing. The Viêtminh made frequent and effective use of deception as well, as they would fire artillery pieces, then set off smoke charges away from actual gun placement in an effort to draw French counter battery fire.

Not only did the Viêtminh method of employment come as a surprise to the French, but the caliber and quantity of ammunition came as a shock as well. The French assumed that Giáp would not be able to bring anything larger than a 75mm howitzer or 82mm mortar to Diên Biên Phu and would only have enough ammunition to support an attack of five to six days. In actuality, the Viêtminh assembled approximately two-dozen 105mm howitzers, and by the end of the fifty-six day battle had fired at least 93,000 artillery rounds. The French underestimation of Viêtminh capability was lethal in its effect.[20]

The Chinese impact on Diên Biên Phu was sizeable, but the battle was nonetheless a Viêtminh affair, as the CMAG's role at was limited to providing weapons, ammunition, and tactical advice. A survey of the Viêtminh and Chinese records

[20] The 93,000 round estimate comes from a JCS study conducted following the war, and includes 105mm and 75mm howitzer shells, as well as 120mm and 82mm mortar rounds. See Davidson, p. 226.

regarding aid is hazy, with contradictory statements being made by both sides. In his narrative of the battle, Giáp makes no mention of significant Chinese help apart from war material, perhaps for two reasons: First, the animosity that existed between Giáp and CMAG Chief Chen Geng was most likely motivated by former's distaste for the latter's patronizing air. Mao was well aware of this natural Sino-Vietnamese enmity and warned his own advisors to "not show victors' arrogance." At another time, CMAG member Wang Yanquan was criticized by his superiors for his reluctance to work in Vietnam, let alone work with Vietnamese.[21] Giáp most certainly tolerated the Chinese, motivated by his dependence on their vast supplies, but sincere submission to their supposedly sage advice was out of the question.[22]

The discord between Giáp and Chen was mutual. In his diary, Chen described Giáp as "slippery and not very upright and honest." Chen further wrote, "The greatest shortcoming of the Vietnamese Communists was the fear of letting other people know their weaknesses. They lacked Bolshevist self-criticism."[23] In Chen's estimation, Giáp epitomized this flaw; and as such, any Chinese study of involvement in Vietnam must be seen in light of the prevailing rancor between the CMAG and Viêtminh leadership. Despite these misgivings, Chinese impact at Diên Biên Phu was real. The Chinese

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[21] Zhai, pp. 696-97, 712.

[22] Dr. Douglas Pike, former director of the Indochina Studies Program at the University of California at Berkeley, characterized this sentiment by calling the Vietnamese the "Prussians of Asia." Quoting Hanoi historian Le Dinh Sy, Pike notes that "Over the centuries the Vietnamese have endured warfare no more incessantly than have most Asian neighbors [but] that is not what the Vietnamese tell themselves today, not what they believe. The theme of their history—like Prussia's in Europe—is that Vietnam is the most fought over ground. Vietnamese battled China with amazing determination for centuries." Summers, *Atlas*, p. 20.

[23] Zhai, pp. 696-97, 712.

supplied the Viêtminh with 37mm AAA pieces, as well as the training needed to operate the guns.[24] Fresh from a war in Korea, the Chinese also shared their sniping and fortification experience, using the former to gnaw away at French morale, and the latter to get close to the French outposts while minimizing exposure during attack.[25] Communist victory at Diên Biên Phu was certainly predicated on the supply of Chinese weapons and ammunition, but was made effective only by Viêtminh blood.

The Strategy

On 3 December 1953, Navarre sent a message to his subordinate commanders expressing his decision to accept battle at Diên Biên Phu. In the transcript, he set forth his vision for how he expected the campaign to progress. First, he envisioned a movement phase, where Viêtminh units and supplies would arrive in the vicinity of the valley. This would last several weeks. An approach and reconnaissance phase would follow, where the Viêtminh would attempt to determine the strengths and weaknesses of the French garrison, and position their strike forces according. This phase would last between six and ten days. Last, he envisioned an attack phase lasting several days, "which must end with the failure of the Viêtminh offensive."[26] Navarre's concept of the battle was correct in essence, but flawed in critical specifics. His timeline failed to

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[24] Both Fall and Davidson state that these guns may have been manned by Chinese Communist gunners. See Fall, *Hell*, p. 266; Davidson, p. 224.

[25] Zhai, pp. 709-10. Direct fire artillery fire was no stranger to Viêtminh tactics. Lengthy artillery barrages, most likely employing the same direct fire method, preceded both assaults on Dong Khé in 1950. Navarre credits the Chinese with suggesting the use of direct fire artillery, as opposed to indirect fire, but this assertion remains unverified. It is doubtful that Navarre was so informed on the source of the Viêtminh artillery tactics, when he admits that the use of direct vs. indirect fire was the "major surprise" of the battle. See Navarre, *Agonie*, pp. 218-19, as quoted in Davidson, pp. 79, 227; O'Ballance, pp. 114-15.

[26] Fall, *Hell*, p. 44.

incorporate an appreciation of the magnitude of the effort being launched against him, resulting in an oversimplification of his view of the third phase of the campaign. To be sure, he did not pretend that victory at Diên Biên Phu would come easy, but his underestimation of the will of his opponent proved costly.On the other side of the battle-line, Giáp was formulating his own plan for victory. In his own recapitulation of the battle, Giáp records the broad strategic questions surrounding the engagement of his enemy. The decision was first made to destroy the French force completely, the path to this objective being "strike surely and advance surely."[27] As such, the overarching Viêtminh strategic principal was to regard the battle "not as a large-scale attack carried out over a short period, but as a large-scale campaign carried out over a fairly long period."[28] With this guidance in place, Giáp planned the campaign in three phases. The first was to attack the strong points of Beatrice (Him Lam) and Gabrielle (Doc Lap), in that order, as the former was the weaker position (see Figure 3.5, page 122). The second phase was intended to strangle the central position by cutting it off from Isabelle to the south, while narrowing down its free airspace with AAA. The mantra for this stage was "encroach, harass and wrest every inch of ground from the enemy."[29] The final phase of the battle was the general offensive, designed to wipeout the weakened garrison in one swift engagement.

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[27] This was contrasted with the "strike swiftly and win swiftly" strategy; the planned course of action was slower, but intended to be less costly. Võ Nguyên Giáp, *Diên Biên Phu* (Hanoi: Foreign Languages Pub. House, 1962), p. 27.

[28] Ibid., p. 29.

[29] Ibid., p. 34.

Phase One: 13 to 16 March

At 0830 on 13 March, a Curtiss C-46 "Commando" flown by *Aigle Azur Maroc* Airlines was preparing for takeoff at Diên Biên Phu when it came under fire from Viêtminh artillery and was shot to pieces. The plane had earned the distinction a year earlier for deporting the nationalist Sultan of Morocco—but now it lay destroyed on the tarmac, and its notoriety shifted to becoming a prominent reference point for the fortress, as units would describe a particular position with respect to "the Curtiss." The airstrip and aircraft dugouts had been the targets of Viêtminh artillery since 1 February, and with four other aircraft destroyed on the ground during the previous thirty-six hours, the future of Diên Biên Phu's air arm was called to question.[30]

Intelligence intercepts warned the French of a Viêtminh offensive planned for that evening: the attack was planned as an artillery barrage followed by an infantry assault on Beatrice, launched from trenches dug near the position's edge. At noon, Legionnaires on Beatrice discovered the Viêtminh approach trenches only two hundred yards away, and sent a patrol to preempt the attack by filling them with dirt. This in turn prompted a Viêtminh artillery barrage that reduced the eastern face of the strongpoint to rubble. Shortly thereafter the runway was again targeted and two Dakotas from Transport Group 1/64 *Béarn* were destroyed on the ground. The F8F Bearcat fighters based at Diên Biên

[30] These aircraft included a C-119 (destroyed the night of 11 March after landing with engine trouble), two Cricket reconnaissance aircraft, and an F8F fighter (shelled on 12 March); see Fall, *Hell*, p. 134. As an interesting side note on the Packet, USAF Major Thomas E. Yarbrough flew to Diên Biên Phu with an FAF crew in a C-47 on the afternoon of the 11th to rescue the C-119. When the airfield came under fire that night, de Castries reportedly impressed the FAF crew, stating that "he needed all the men he could get," leaving Yarbrough on his own. After the Packet was destroyed that evening, Yarbrough took the C-47, now void of an aircrew, and flew solo back to Haiphong. Yarbrough continued to fly C-119 missions as a copilot on CAT crews; he was Steve Kusak's copilot on 6 May, the day James McGovern was shot down (author interview with Lt. Col. Jack McDonald).

Phu scrambled to counter the artillery threat (as well as escape their own destruction), but were harassed by constant ground fire, and once airborne, were greeted by never before fired 37mm guns positioned directly north and west of Gabrielle. The location of this AAA was no accident, at it was directly aligned with the departure-end of the runway to engage aircraft immediately after takeoff.[31] The fighter-bombers, stationed at Diên Biên Phu to suppress enemy artillery, were effectively neutralized as seven Bearcats would be destroyed on the ground in the next twenty-four hours, with the other four narrowly escaping to Hanoi and Vientiane. With the airfield in severe disrepair following the noontime barrage, base air traffic control broadcast a "GQO" message at 1600, effectively closing the airfield to the outside world. This was an ominous sign for a fortress whose logistical credo was *sola airlift*.

The main artillery assault against Beatrice began as expected at 1700.[32] Following an hour-long barrage, six Viêtminh regiments attacked, and French artillery fire was requested immediately forward of the final line of defense. Shortly thereafter the commander of Beatrice, Major Paul Pégot, was killed when a shell destroyed his command post, leaving his three companies to fight in isolation. By 0015 on the 14th, the last company on Beatrice reported being overrun and called for artillery fire on its own position before going off the air. With the strong point lost, the French launched a paratroop counterattack from the central position early the next day, only to be ambushed

[31] This position was also ideal to fire at airdrop aircraft that would run-in to the drop zone on the usual south-to-north course.

[32] There was a new moon on 13 March, providing the Viêtminh attackers with enough darkness for concealment, but enough light for operations. Davidson states that 15 years later this would be called "Viet Cong Moon" by US forces in Vietnam (p. 234).

a short distance down Route 41. The counterattack was abandoned and Beatrice written off. The French had expended a quarter of their 105mm howitzer shells the first night of the battle and to no effect, an evil omen, both operationally and logistically.[33]

When hostilities commenced on the 13th, CAT crews at Cat Bi were enraged over what they considered a gross violation of their contract—they had not signed up to fly combat missions in such a threatening environment. As such, they advised Captain Soulat, the FAF Packet detachment commander, of their refusal to fly, triggering a call by Soulat to GATAC headquarters. Two days later, CAT changed its mind and agreed to continue missions to Diên Biên Phu. It is unclear what motivated the Americans to return to fly, as this was not the first time CAT crews would "go on strike," demanding (rather reasonably) better flak suppression and fighter escort. Some sources report that CAT was "ordered" back into the cockpit, but this is questionable considering that nature of contract flying. Unlike their military counterparts, the CAT crews were only bound by ink, and not by oath. It is more likely that the CAT pilots, all combat veterans, willingly volunteered to keep flying simply out of a sense of obligation for the needy garrison; regardless of this hypothesis, the important point to remember is that these were *civilians* voluntarily flying in combat.[34]

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[33] Fall, *Hell*, p. 142; Davidson, pp. 235-36.

[34] Bertin, p. 84. Another incentive to keep CAT flying was the pay. Though not extravagant, the $800 to $1,000 for sixty flying hours a month, with the combat bonus of $10 an hour, was enough to give the CAT crews the reputation of not informing mechanics of problems with aircraft. If the maintenance teams needed to perform lengthy repairs on aircraft, then those planes were not flyable, effectively reducing the CAT pilot's income (see Leary, *Perilous Missions*, p. 192; Col. Thomas Julian, interview by Col. Ray Bowers, 8 June 1971, Transcript, AFHRA, Montgomery, AL; McDonald interview). Also noteworthy is the assertion by one source that USAF crews flew the C-119s during the periodic CAT walk-outs, and that even when CAT was flying the Packets, the crews often had USAF copilots to cover the low pilot manning for the entire fleet (see McDonald interview).

On the morning of the 14th, a cease-fire was agreed upon to allow both sides the opportunity to collect their dead and wounded. Of the 750 man garrison of Beatrice, only 192 men and two officers survived. With a bevy of fresh wounded, the garrison's chief surgeon, Major Paul Grawin set to work, requesting blood, an Airborne Surgical Team, and airlift for the critically wounded. With the runway badly damaged by Viêtminh artillery, C-47 airlift was not be possible until adequate repairs were made to the PSP. At 0800, a single engine DaHavilland Beaver landed amid the rubble, delivered the blood, and picked up four critically wounded as well as Colonel de Castries' civilian secretary.[35] At 1500, the surgical team was mis-dropped into the barbed-wire entanglements of the central position, and carefully made its way to base under sporadic Viêtminh artillery fire.

Just prior to the arrival of the surgical team, the garrison received a boost in morale with the arrival of Major André Botella's *5e Bataillon de Parachutistes Vietnamiens* (5th Vietnamese Parachute Battalion, or BPVN). The paratroopers were dropped from 600 feet on the traditional drop zones of Natasha, Octavie, and Simone, while under fire from enemy flak and artillery. Curiously, none of the Dakotas were hit, aided no doubt by their dispersal over the three separate DZs. Under grueling fire, the battalion wearily regrouped and was in position on Éliane by 1800, as the garrison braced itself for an expected attack on Gabrielle.[36]

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[35] Paule Bougeade was the only European civilian stationed at Diên Biên Phu and left under personal protest at the order of her commander (Fall, *Hell*, p. 143)

[36] Fall reports that some of these men had to march ten miles following their drop, with two of the companies sustaining severe losses (p. 144).

In a repeat of the previous night's activities, the Viêtminh artillery barrage began at 1700, blanketing both Gabrielle and the central position's gun emplacements. Defended by the *5e Bataillon, 7e Régiment de Tirailleurs Algériens* (5th Battalion, 7th Algerian Rifle regiment, or 5/7 RTA), Gabrielle was the only strongpoint with an inner defensive perimeter, making its defeat a far more difficult chore for the Viêtminh. At 2000, two regiments of the Viêtminh 308th Division attacked. They were initially contained, but the Algerians, with their officers dead and under the strain of constant artillery bombardment, began to give ground. At approximately 0400, de Castries ordered Langlais to put together a tank-led counterattack force in an effort to re-secure the threatened Gabrielle. In assembling his force, Langlais selected a company of the 1 BEP to lead the attack with the tanks in support. In an uncharacteristic display of poor judgement, he chose the 5 BPVN as his main force—the same 5 BPVN that had just jumped into Diên Biên Phu fourteen hours earlier. Not only was this battalion weary from their recent drop, but they were unfamiliar with the terrain, trenches and barbed wire, and had to travel nearly the entire length of the central position to get to the jumping-off point for the counterattack.

Langlais' decision proved fatal. The counterattack was launched at 0530 on the 15th, and by 0700, was bogged down after fording a small stream halfway to Gabrielle. Under heavy artillery fire, the tanks and the company of the 1 BEP raced through the barrage, reaching the southern edge of their objective, but the main body of the 5 BPVN froze in place. This paralysis squandered the counterattack; accompanied by the remnant

of Gabrielle's Algerians, it reached the central position by 0800. Gabrielle had been lost, thus removing the key strongpoint responsible for defending the northern perimeter.[37]

The French sustained approximately 1,000 casualties in the struggle for Gabrielle. Somewhere between 1,000 and 2,000 Viêtminh were killed, with perhaps twice that many wounded. Giáp paid a high price for these satellite strongpoints—he lost more troops taking Gabrielle than he did against any other strongpoint.[38] Also, it is doubtful that many of the Viêtminh wounded returned to action or even survived their wounds. Giáp's army had one surgeon and six "assistant doctors" for a force of 50,000 men around Diên Biên Phu. Such limited care under unsanitary and primitive conditions surely led to a higher mortality rate in the dressing stations than on the battlefield. This absence of medical care no doubt had an adverse effect on Viêtminh morale as the campaign progressed. The memory of the tenacious French stand at Gabrielle would effect the celebrated 308th Division for the rest of the campaign.[39]

The medical issue was equally problematic with the French, but in a different way. The garrison's hospital was well stocked, but airborne medical evacuation, or "medevac," was the primary method of dealing with the critically wounded. C-47s marked with a red cross were supposed to enjoy the same immunity from enemy attack as

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[37] Davidson, p. 237. Bernard Fall suspects that Langlais viewed the Gabrielle counterattack as an effort in futility, and as such chose the 5 BPVN to spare his own 1 BEP and 8 BPC (*Hell*, p. 150). Regardless of motive, the fall of Gabrielle was the hole in the dike that would eventually lead to vanishing drop zones.

[38] Davidson points out that neither Navarre nor Giáp devote much space to these two engagements in either of their books on the battle. Navarre attributes the French failure to the destruction of both strongpoints' command bunkers. Correspondingly, Giáp ignores the early attacks on Gabrielle (because they were repulsed), and instead states that his infantry attacks did not begin until 0200 on the 15th (pp. 239-40).

[39] Ibid.

medics or ambulance vehicles on the battlefield, but Giáp ignored this combat ethic as he attempted to over-burden the fortress with its own wounded. On 17 March, a C-47 medevac landed at the main runway, where it was quickly met by a red cross marked ambulance. In order to maximize effect, the Viêtminh opened fire when both the aircraft and trucks had come to a stop to load the wounded; this broke up the rendezvous, forcing the Dakota to hastily depart without any passengers. This threat forced a high degree of coordination between air and ground medical personnel, as the aircraft were only able to spend five minutes on the ground to on-load patients before taking off.[40]

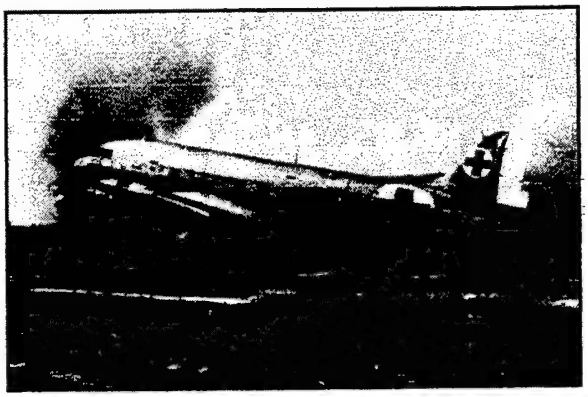

Fig. 3.3. Medevac C-47 under fire at Diên Biên Phu. Fall, *Street Without Joy*, p. 156.

The medevac problem became even more complicated on the 18th, as Viêtminh 37mm batteries were positioned atop the newly conquered heights of Beatrice and Gabrielle, firing directly into the aircraft traffic pattern. This forced the airland effort to shift to night operations, where the French hit upon a creative medevac plan: a single C-47 would act as a "decoy" on a routine airdrop mission over the valley, while a second blacked-out Dakota would glide into the field with its propellers practically feathered. This technique was effective for the next ten days, until an untimely parachute flare exposed the ruse to the Viêtminh. It permitted the evacuation of 223 wounded, providing

[40] In order to cope with the newly positioned Viêtminh antiaircraft batteries on Gabrielle and Anne-Marie, medevac C-47s began landing to the north and taking off to the south (Roy, *La Bataille de Diên Biên Phu*, p. 479). See also Davidson, 238-39, 257; Fall, *Hell*, 165-66.

some relief to the encumbered hospital. In addition, helicopter flights based out of Laos also aided in casualty evacuation, taking out 101 wounded by 27 March.[41]

With the loss of Beatrice and Gabrielle, the most exposed positions were the two northern strongpoints on Anne Marie (Anne Marie 1 and 2; see Figure 3.5, page 122), garrisoned by the *3^e Bataillon T'ai* (3^d T'ai Battalion, or BT 3). This position, critical to the security of the runway and Natasha drop zone, fell victim to Viêtminh propaganda leaflets that urged the T'ais, nearly a hundred miles from their home of Lai Chau, to abandon the battle. Giáp's political *dau tranh* worked, as demoralized T'ais began to slip away on the 15th. By 17 March, nearly the entire battalion had escaped. The T'ais were dubbed "rats" following their abandonment, but de Castries, Cogny and Navarre should have foreseen their political vulnerability; yet another poor command decision that would have serious future implications on the size of the DZ and the hopes for resupply.[42]

In the midst of the T'ai desertion, the French garrison was given a boost of powerful proportions with the arrival of the 6 BPC, commanded by the legendary Major Marcel Bigeard. Nicknamed "Bruno," Bigeard was familiar to all who served at Diên Biên Phu, as loved by his men as feared by the enemy. He had been in Indochina since the end of World War II, working in isolated T'ai country training battalions to fight. In the words of French journalist Jules Roy, "He has made Calonne's dictum his own: 'If it's possible, it's done; if it's impossible, it will be done.'"[43] He was said to exhort his

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[41] Fall, *Hell*, p. 168.

[42] Davidson, p. 239.

[43] Roy, *The Battle of Dienbienphu*, pp. 312. Charles-Alexander de Calonne (1734-1802) was a French statesman whose efforts to reform the structure of his country's finance and administration precipitated the governmental crisis leading to the French Revolution of 1789.

men by telling them, "Learn to look death in the face. You are born to die. You're going where men go to die."[44] A ruthlessly effective leader, the very presence of Bigeard was a shot in the arm to French morale as his battalion dug in around Éliane that evening.

The Lull: 17 to 30 March

The loss of Beatrice, Gabrielle, and the T'ai abandonment of northern Anne Marie were followed by a pause as both sides prepared for the next round. As Viêtminh trenches worked closer and closer to the French perimeter, the daily collection of a hundred-plus tons of airdropped goods became problematic, prompting a message on the 18th to Hanoi requesting drops be made directly on the strongpoints rather than the DZs (see drop zone photograph, Figure 3.6, page 123).[45] On the next day, a follow-up message was sent requesting that the C-119s drop bundles of a maximum weight of 100 kilos, rather than having the standard one-ton pallet come crashing down atop a command post or bunker.[46]

In twelve days the Viêtminh dug over one hundred kilometers of trenches, systematically surrounding the central position, severing Isabelle from the main base and preparing for attacks on the high ground of Dominique and Éliane to the east and Huguette to the west. Taking the "Five Hills" on the eastern edge of the main camp would put Giáp in position for his final assault. Also, taking the northwestern portions of Huguette (Huguette 6 and 7) would effectively eliminate the runway and DZ Natasha as

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[44] Ibid.

[45] This is not to say that all drops for the remainder of the fight avoided the DZs; as long as the drop zones were available, they were used, so long as the ground forces could adequately process the cargo.

[46] Bernard Fall states that the motive for dropping loads on strongpoints as opposed to DZs was the difficulty in collecting and distributing cargo from *nighttime* drops. This may have been partially the case, but the real issue with cargo processing was the proximity of the enemy, and not the darkness (see Bertin, p. 109). On the 19th, Navarre requested more airdrop parachutes from the US CJCS, Admiral

French assets, further reducing the already shrinking drop area. Thus, the French had two problems to deal with: first, they had to hold every inch of territory so as to give the airlifters a reasonably-sized target. Second, they had to somehow suppress the antiaircraft fire that either forced transports to miss the DZ, or destroyed the aircraft. The French problem was three-dimensional, and their success or failure in solving it would determine victory or defeat.

To deal with the vertical threat, a ghastly form of flak suppression was implemented, though with questionable success. The weapon was napalm, and the vehicle was the C-119. The French had requested approval to drop napalm from Packets in January, but the request was apparently quashed by the JCS at the Pentagon. With the advent of hostilities in mid-March, the question was raised again, this time by French Chief of Staff, General Paul Ely, during his visit to Washington DC. To mitigate the chances of French defeat at Diên Biên Phu, Admiral Radford, now Chairman of the JCS, lifted the napalm/Packet ban on 22 March. The following day, Operation NEPTUNE was launched, as US Army parachute riggers from the 8081st Quartermaster rigged and loaded the "napalm bombs" in the back of six French-piloted Packets.[47] The planes took off at dusk on the first flak suppression mission these pilots had ever flown, climbing to a cruising and bombing altitude of 12,000 feet, designed to keep them well clear of enemy

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Radford (Pouget, p. 359). Smaller airdrop bundles would have required more parachutes, but it is unclear if the decision to move to smaller packaging prompted Navarre's request to Radford.

[47] The bombs were fairly simplistic, as they were built by placing a hand-grenade inside a 55-gallon drum of napalm, and tethering the grenade's pin to a static-line. When the cargo was released, the pin would be pulled from the grenade as it exited the aircraft, exploding and igniting shortly thereafter.

flak.[48] Reaching Diên Biên Phu, the formation dropped their deadly cargo over enemy trench positions, but the impressive display of fire-bombing did not yield "observable results" in the water-logged jungles of rainy North Vietnam.[49] Nevertheless, NEPTUNE continued, as well as EOLE (an interdiction of Route 41), with napalm-filled C-119s and C-47s dropping 770 tons of the jellied gasoline by mid April.

The Viêtminh AAA success against the airlift effort continued despite the work of the napalm bombers. On the afternoon of 24 March, a C-47 was shot down by 37mm fire with no survivors. On the following day, another Dakota crash-landed after being shot down, but the crew was heroically rescued by a detachment sent from the main camp. On the 26th and 27th, three more C-47s were shot down, prompting Nicot to send a message to General Lauzin stating:

> It is hardly necessary to insist on the necessity of stopping that carnage. But the air crews, in addition to an obvious physical fatigue, have suffered a psychological shock... It is necessary to immediately stop low-level parachute drops and I have given the order to do so as of tonight.[50]

Thus, 27 March was noteworthy on two accounts: it was the last day that a C-47 successfully departed Diên Biên Phu, and it also marked the end of daytime drops from

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[48] The first napalm-laden Packet formation to takeoff from Cat Bi nearly suffered a cataclysmic accident, as the copilot on aircraft number 186 raised his landing gear before getting airborne. The plane settled onto the runway, shedding an impressive train of sparks, but miraculously, the 2,000 pounds of aviation fuel and 8,000 pounds of napalm did not ignite. As Bertin later said, *"Le Bon Dieu était là."* (p. 97; see also Leary, *Perilous Missions*, p. 255). Numerous sources (including Lovelace, Leary, and Futrell) erroneously state that this mishap aircraft had 4,000 gallons of napalm on-board; it would take over seventy barrels to hold this amount of napalm, and the cargo would have weighed over twelve tons, far exceeding the capacity of a Packet. Bertin's figure of four tons is much more reasonable.

[49] Fall, *Hell*, p. 175. The official USAF history states that the drops had "good results...better than the tests in Korea had shown" (see Lovelace, p. 18), but the Viêtminh did not seem to be terribly hampered by this display of aerial flame throwing. McDonald served as a kicker for two napalm sorties, yielding negligible results, as the drops from high altitude were inaccurate and seldom hit Viêtminh positions (McDonald interview).

[50] Fall, *Hell*, p. 185.

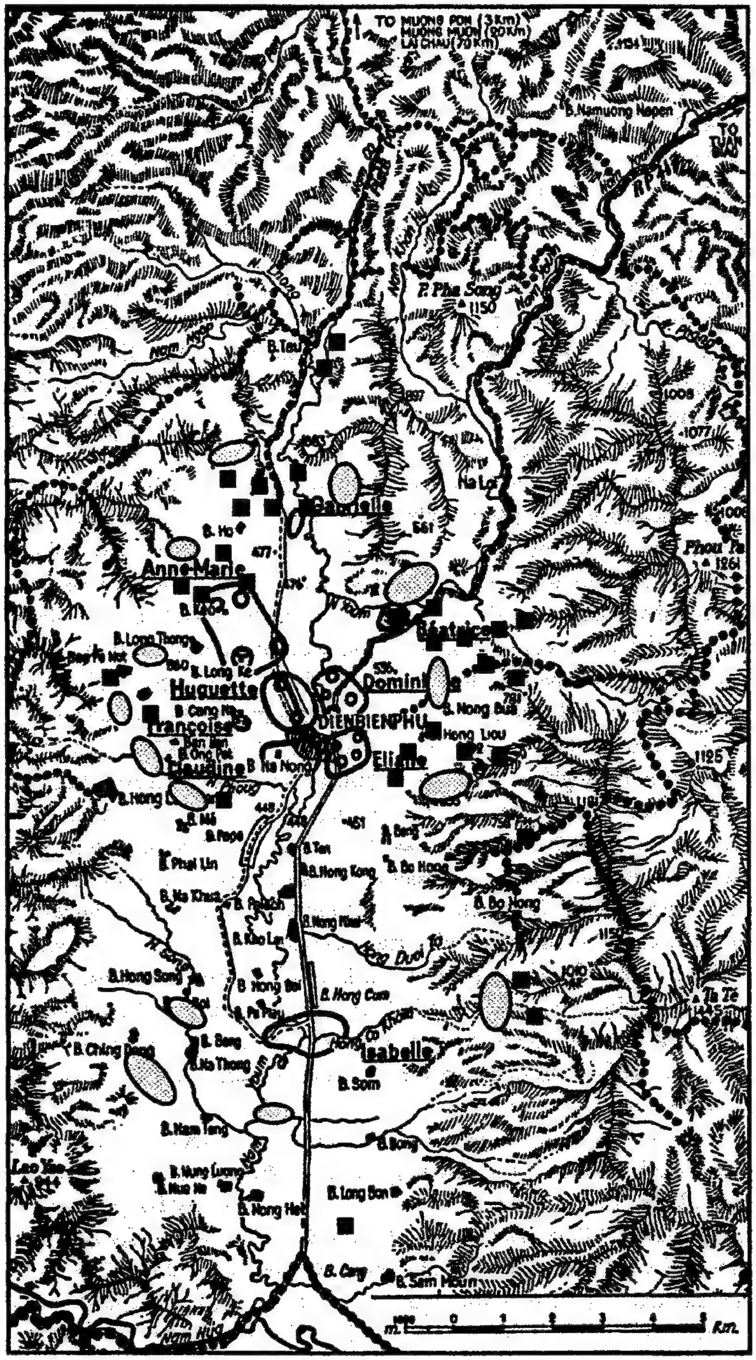

Figure 3.4. Flak and Artillery at Dien Bien Phu. Adapted from Fall, *Hell*, p. 184 and Roy, *The Battle of Dienbienphu*, p. 118.

■ 37mm AAA

⬭ Artillery Batteries

2,500 feet. Now, pilots would drop from 6,500 feet during the day, marking the first incremental boost in a drop altitude that would eventually reach 10,000 feet.[51]

The CAT pilots reacted to the "carnage" on the 27th by going "on strike" again. Repeating their earlier complaint of the absence of adequate flak suppression and fighter escort, CAT leadership again informed Soulat of its decision to stop flying, with the French captain making yet another phone call to headquarters. Two days later CAT again relented and

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[51] Ibid.

returned to the cockpit.[52] Also on the 27th, commensurate with Nicot's drop altitude directive, de Castries called Bigeard to his command post at 1900 and gave him *carte blanche* in planning an offensive against Viêtminh flak positions a mile west of Claudine, near the village of Ban Ong Pet. Bigeard cautioned de Castries that such an operation might result in serious casualties in the best French units, then set to work to develop the plan of attack. After six hours, Bigeard revealed his plan that called for the use of his own 6 BPC in a thrust toward Ban Ong Pet, supported by a tank platoon from Isabelle. The 8 BPC would attack to the north, supported by a tank platoon from the main camp, and the 1/2 REI would be held in reserve. Twelve 105mm and two 155mm howitzers would be used for artillery support, as well as twelve 120mm mortars and on-call close air support. The plan was briefed at 0200 on the 28th, and launched four hours later.

The operation was executed with near-flawless precision. Except for damage to two tanks, the French routed the enemy, leaving 350 Viêtminh dead on the battlefield, while capturing five 20mm antiaircraft cannons, twelve .50 caliber antiaircraft machine guns, "hundreds" of other weapons, and ten prisoners. The small offensive did wonders for the garrison's morale, but was not without a price, as it cost the French twenty dead and forty-five wounded, all from elite units.

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[52] Marc Bertin points out that the CAT "strikes" always seemed to happen on a Friday afternoon or Saturday morning, ending the following Monday, suspiciously implying that the Americans simply wanted a break during the weekend (Bertin, pp. 102-3). It is doubtful that the CAT pilots were so shallow in motive (otherwise they would have never returned to duty), but rather were determined to persuade the FAF leadership of the futility of airlift *sans* escort.

Phase Two, Part One: 30 March to 4 April

On 30 March, Langlais made an assessment of the French position, and surmised that the next Viêtminh offensive would come from the east. The ease of Bigeard's assault in the western flatlands indicated that Giáp would seek to take the five hills east of the Nam Yum River as key to an eventual attack on the main camp. On the morning of 30 March, Langlais toured the eastern strongpoints of Éliane and Dominique, and made force adjustments in preparation for the anticipated attack. The Viêtminh offensive began at 1800 with an artillery barrage followed by an infantry assault against the eastern strongpoints of Éliane and Dominique (E1, D1, and D2). French resistance on Dominique 1 and 2 quickly disintegrated, with the 312th's assault battalions occupying Dominique 1 only thirty minutes after the attack started.

Viêtminh troops continued their thrust, pressing toward the heart of the central position, only to be sent reeling, by artillery on Dominique 3 and "quad-fifties"[53] firing from Sparrowhawk.[54] De Castries radioed Cogny and requested more paratroopers be dropped the next day. Cogny denied his request, but did not close the door completely, and *paras* were put on alert at Gia Lam in Hanoi.[55] Six hours after the initial attack, a

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[53] These were .50 caliber machine guns on quadruple mounts, that is four guns firing together, mounted atop a halftrack. The .50 caliber machinegun had a high rate of fire and exceptional long-range accuracy.

[54] Lt. Brunbrouck's *4e Batterie* of the *IIe Groupe, 4e Régiment d'Artilerie Coloniale* located on D3, lowered their cannon muzzles and fired directly into the on-rushing enemy, preventing the Viêtminh from breaking into Diên Biên Phu's center (Fall, *Hell*, 195-97; Davidson, p. 246).

[55] At the same time as this, the largest Viêtminh offensive to date, a crisis in command was taking place. When the attack started, Navarre decided to fly from his headquarters in Saigon, to Cogny's headquarters in Hanoi. Navarre landed at 0145 on the 31st, yet was ignored and snubbed by the junior Cogny until six hours later. When the two men finally met later that morning, a shouting match ensued, with Cogny telling Navarre, "If you weren't a four-star general, I'd slap you across the face!" Oddly enough, the altercation ended with no change in the status quo (for a more detailed analysis of this event, see Davidson, pp. 248-52).

spontaneous French counterattack recaptured half of Éliane 2, exorcising the demons left by the failed counterattacks on Beatrice and Gabrielle two weeks earlier. In addition, attacks by the 308th Division against Huguette 7 were stopped, with the position fully back in French hands by 0530 the next morning. Counter punches were traded on Huguette, Éliane and Dominique during the next two days and nights, and by the morning of 2 April, Huguette 7, Dominique 1 and 2, Éliane 1, and half of Éliane 2 were in Viêtminh hands. The French had lost 2,093 men in five days and more troops were desperately needed.[56]

At 0900 on 1 April, a conference took place in Hanoi that included Cogny, Dechaux, Nicot, and other key staff members. The topic was the possible resurrection of the two southern drop zones, Octavie and Simone near strongpoint Isabelle, a suggestion made by Langlais as an alternate to the flak-ridden DZs within the camp's perimeter. Nicot argued against the proposal, stating that his planes would be terribly exposed flying at the 1,000 foot drop altitude these DZs required. Dechaux also argued against the use of the southern DZs, as their positions had been accidentally compromised over the radio on 31 March. Finally, Colonel Sauvagnac, the head of the paratroop resupply effort, also argued against the southern zones, saying that his *paras* would be too exposed to intense enemy ground fire. Sauvagnac then proposed what he deemed as "the only possible solution: the nighttime dropping of personnel by single planes coming in at irregular intervals."[57] Cogny approved the decision, effectively reducing the hoped-for stream of paratroop reinforcements to a trickle.

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[56] Davidson pp. 246-49, 260 ; Fall, *Hell*, pp. 192-99

[57] Fall, *Hell*, pp. 209-10.

Nicot and Sauvagnac's fears were soon confirmed. That night, a formation of Dakotas carrying the II/1 RPC appeared over Diên Biên Phu, only to be greeted by a coordinated curtain of antiaircraft fire. Only one company out of the entire battalion was able to make the jump onto the 500 meter long DZ, sustaining seven casualties (five before hitting the ground). The remainder of the force returned to Hanoi, depriving the garrison of badly needed troops. To make matters worse, some of the planes were carrying ammunition and other critical supplies, but were unable to drop due to the flak. Langlais was furious at the about the piecemeal manner Hanoi chose to replenish his decimated force. In his mind, a point had been reached that called for extreme measures—drop zone size, safety and security went out the window, as paratroops should be dropped on the center of the camp, regardless of barbed wire, gun placements, or radio antennas. This of course clashed with Sauvagnac's insistence that only properly trained paratroopers be dropped on properly established DZs. But in Langlais' opinion, writes Bernard Fall, "a parachute was just a handy way of getting out of an aircraft in mid-air and could be used by any reasonably agile man who had jumped off a streetcar."[58]

On the morning of 2 April, Viêtminh assault troops overran Huguette 7. A French counterattack by 100 men and three tanks succeeded in driving off the enemy, but with no reserves, the French were forced to withdraw later that morning, yielding a key position in the defense of the northwestern portion of the base, runway, and drop zone. The Viêtminh reoccupied the position, and begin to probe Huguette 6 and 1, positions

[58] As the battle progressed, the need for specialists (gunners, tank drivers, etc) who were parachute qualified became acute, and men were dropped without any prior paratroop training. For 681 of the 4,227 paratroopers who jumped into the battle, it was the first time they had ever "hit the silk." Surprisingly enough, the drop-casualty rate between troopers and non-troopers was similar. Langlais unorthodox view was indeed correct. Fall, *Hell*, p. 211, 217-18.

immediately north and west of the runway. Later that night, more troops of the II/1 RCP jumped into Diên Biên Phu, with the battalion's last company finally arriving on the night of the 3 April. De Castries' staff calculated that at a replenishment rate of one hundred men per night, the fortress could only hold out for fifteen more days. In terms of paratroop delivery, what had taken less than thirty minutes to accomplish on 20 November 1953 now took three full nights.[59]

While the issue of paratroop reinforcement dominated the scene in the early days of the Viêtminh attacks on Éliane, Dominique, and Huguette, airdrop load planners sought to devise a solution to Nicot's 27 March directive restricting his transports from daytime low altitude airdrops. Aircraft normally dropped from a standard altitude, based upon the winds, size of cargo, and type of parachute. These three factors were used to establish a computed air release point (CARP), an airborne position with reference to the drop zone marking on the ground. With the mandated boost in altitude, all such drop computations were nullified, as loads dropped from 6,500 feet was much more subject to wind-drift than those dropped from 2,500 feet. In order to solve this problem, a powder-train fuse delay mechanism was developed by the French that prevented the load's parachute from *fully* opening until it was close to the ground.[60] The concept, though brilliant in theory, had problems initially, dropping nearly half of the loads into Viêtminh

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[59] Ibid., p. 215. The parsimonious attitude in Hanoi toward paratroop replenishment was not just a case of military ignorance or incompetence. Were Diên Biên Phu replenished with hundreds of troopers a night, there were doubts regarding the ability to feed and supply a swelling garrison under the current AAA threat. Raising the number of troops at Diên Biên Phu did not just give Langlais more bodies with which to fight, but it also gave Nicot more moths to feed.

[60] When the load departed the aircraft, the parachute would deploy, but a lanyard that circled its skirt hobbled the parachute, prevented inflation. A slow-burning fuse, lit mechanically when the load exited the aircraft, set off a small pyrotechnic charge after a preset number of seconds, cutting the hobble-lanyard, allowing the parachute to inflate.

hands; aircrews gradually became more comfortable with the system, however, and were eventually able to use it with fairly good success.[61]

Just after noon on 4 April, Communist troops abandoned Éliane 2 without a fight.[62] Later that night, Giáp launched a regiment from the 312th Division against the 90 Legionnaires defending Huguette 6; the French responded with multiple counterattacks, the last commanded by Bigeard who blunted the final Viêtminh assault. By the end of the attack, one of the four attacking Viêtminh battalions was completely destroyed, as the outnumbered French garrison continued to bleed the Viêtminh army.[63] Huguette notwithstanding, Giáp's main objective during this stage of the battle had been the Five Hills on Éliane and Dominique, but by 4 April, his attention shifted to the west as he sought to complete the encirclement to begin closing the vise.

Phase Two, Part Two: 5 April to 1 May

If attacks against Huguette were diversions in the first half of Phase Two, they became the main objective during this phase's second half; this portion of the battle was characterized by Viêtminh attacks on Huguette 1 and 6, and French and Communist

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[61] Jean Pouget, Navarre's *aide de camp* who jumped into Diên Biên Phu just before it fell, stated that initially the system was such a failure, that 50% of the drops fell into Viêtminh hands. Bernard Fall's estimation is not so grim, as he records daily drops with a much better average. An official USAF study conducted on the system immediately after the battle records an overall success rate of 80% using the delay system, and this based on records from Diên Biên Phu's daily radio reports, as well as those of the Officer in Charge of Airborne Logistics at Hanoi. Based on the drop data mentioned comprehensively in literature on the battle, the 80% figure in the USAF report is probably the most accurate (Lovelace, source data, "Documentation of Time Delay Fuse Detonator," 28 May 1954, Tab C).

[62] The motive for this move is absent from Giáp's memoirs Some noted historians speculate that he was either trying to conserve manpower, or that he simply lacked the artillery ammunition to sustain a "two-front" battle simultaneously on Eliane and Huguette.

[63] Roy, *The Battle of Dienbienphu*, p. 222.

counters on Éliane 1.[64] Logistics continued to be the most foreboding issue for the French, as flak became heavier and the drop zone became smaller. On the other side of the battle line, sagging morale continued to be the biggest problem for the Viêtminh.

On 5 April, the Viêtminh occupation of Éliane 1 posed the greatest positional threat to the French. Situated abeam the command post on the fortress' eastern edge, this position provided a vantage point for sniper fire, as well as threatening Éliane 4. During the day, Cogny promised to send the 2 BEP into Diên Biên Phu, and Bigeard responded by planning an intricate counterattack of the position.[65] Airdrop problems would continue to plague the garrison, however: at 1400 that afternoon, a Packet flew over the fortress and dropped its entire load of storage batteries and two 75mm recoilless guns behind enemy lines. The controller on the ground laconically replied to the crew, "We'll try to destroy it with artillery and air force." The French were able to do better, however, as a reconnaissance force of Foreign Legionnaires pressed three kilometers south without meeting resistance, and successfully recovered the two guns and a refrigerated container full of fresh blood.

When Nicot raised the drop altitude at the end of March, the intended purpose was to mitigate the AAA threat—but it seemed as though the drops became *less* accurate, while the flak gunners became *more* accurate. These two factors worked in concert to strain CAT-FAF relations in the beginning of April. CAT pilots had been led to expect

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[64] Davidson, p. 255. On 5 April, the French garrison numbered just under 2,600 fighters, while holding a perimeter of ten kilometers, protecting over a thousand wounded, and guarding over 2,200 Communist prisoners and T'ai deserters (Fall, *Hell*, pp. 226-27).

[65] Davidson points out that Bigeard, who never had formal military schooling, developed a plan that used exactly the same offensive tactics, the so-called *Von Hutier* tactics, as the Germans in World War I (p. 255).

fighter coverage for their drops, but except for an occasional French Navy F6F from the carrier *Arromanches*, escorts were rarely seen under 10,000 feet. Also, FAF officials scheduled CAT to drop at the same time, 1000 and 1500, every day, making their presence predictable for enemy gunners. CAT asked for more variety in scheduling, but was denied. With the American crews again threatening to quit, Al Cox, CAT's operations manager, flew to Vietnam to appease the disgruntled airmen. Cox worked to smooth over the problems by promising his crews better fighter coverage; additionally, the CAT crews would now be privy to the FAF's daily intelligence briefings, updating the location of known AAA positions.

If fighter coverage was the issue for the American pilots, the language barrier was the issue for de Castries and Langlais. None of the CAT pilots spoke French proficiently, and were unable to communicate using Diên Biên Phu's single radio frequency, often responsible for controlling up to thirty or forty aircraft simultaneously. Rather than engage in potentially futile conversations with the French controllers, the American crews either fell back on their past experience or followed their flight leaders. Consequently, on 13 April, five CAT-flown C-119s dropped their load into enemy hands—a load of 800 rounds of 105mm howitzer ammunition. De Castries sent a message to Hanoi complaining that the "American crews refuse to take into account at all the indications given by our own air liaison headquarters down here."[66] CAT toyed with the idea of having Frank Gubelet, their only French-speaking member, accompany the

[66] De Castries was understandably miffed on the 13th, as a fighter had accidentally bombed the ammunition depot, destroying close to 1,000 rounds of 105mm howitzer ammunition (Fall, *Hell*, p. 242).

crews on their missions; this became unnecessary when the French used British Legionnaires as air-traffic controllers during the CAT drops, markedly improving the Americans' drop accuracy. [67]

On 10 April at 0550, Bigeard successfully launched a counterattack on Éliane 1. By 1400, his assault companies were on top of the position, and were replaced with fresh units by 1600. Giáp counterattacked with a regiment at 2100, but Bigeard threw his entire reserve force into the fray, forcing a Viêtminh retreat. Giáp launched a second counterattack two nights later, sending two battalions against 300 French and Vietnamese paratroopers. The fighting was intense, degenerating to hand-to-hand combat, but the French force was bolstered with the arrival of two understrength companies, pushing the Viêtminh attackers off the hill.

At this point, the morale of the Viêtminh began to break, as French intelligence radio intercepts reported units refusing to obey orders. Giáp himself later admitted the morale problem when he euphemistically wrote, "it was precisely at this time that a *rightist and negative tendency* [his emphasis] appeared among our officers and men, under various forms: fear of casualties, losses, fatigue, difficulties and hardships, underestimation of the enemy, subjectivism, and self-conceit."[68] The declining morale was understandable. Giáp's overall losses had reached an estimated 19,000 men, the

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[67] Leary, *Perilous Missions*, pp. 187-89. Drop scores were so poor at the beginning of April that one of Langlais' officers suggested that the Packets deliberately mis-drop booby-trapped 105mm shells, that would explode when fired from Viêtminh howitzers. Unfortunately, Hanoi was unwilling to go along with the experiment (Fall, *Hell*, p. 226).

[68] Giáp, *Diên Biên Phu*, p. 130, as quoted in Davidson, pp. 256-57.

infantry strength of one of the three Viêtminh combat divisions surrounding Diên Biên Phu. Such tremendous losses necessitated frantic calls for more Communist troops.

In order to curb the morale problem, Giáp gathered the Party political cadres and commissars and planned a "campaign of ideological education... [that] was a great success... and one of the *greatest achievements* [his emphasis] ever scored by this work in the history of struggle of our army."[69]

In the realm of aerial resupply, the airlift averaged 137 tons a day during the first fifteen days of April, with airdrop efficiency reaching its peak during the middle of the month. The 13th and 14th saw 217 and 229 tons dropped, respectively—and on 15 April, the airlift had its finest day, dropping 250 tons over Diên Biên Phu, equaling the Luftwaffe's best day over Stalingrad.[70] The 16th saw 215 tons dropped, with a loss rate of 10%, as Cogny dropped stars and champagne to the newly promoted General de Castries.[71]

On 18 April, Huguette 6 fell, as French forces abandoned the position for lack of adequate water supply. During the previous four nights, supply columns had delivered badly needed water at the expense of heavy casualties. Bigeard's attempt to link up with

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[69] Giáp, *Diên Biên Phu*, pp. 131-32, as quoted in Davidson, p. 257.

[70] Pouget states that half of this tonnage fell into enemy hands (p. 397), but Fall, with access to the archival data, states that the loss was closer to 15% (pp. 253-55).

[71] Unfortunately for the new General, the insignia and congratulatory champagne were dropped behind enemy lines (Fall, *Hell*, pp. 256.57).

Huguette 6 to cover the withdrawal failed, but the strongpoint's commander, Captain Brizard, was nevertheless successful in breaking out and leading his troops to the French lines.[72]

On 21 April, a critical blow was dealt to the airlift effort that involved neither pilot nor plane. When the battle began, there had been almost seventy-five American-made trucks on the garrison, but as time wore on, Communist shrapnel continually punctured the radiators on the water-cooled engines. The fleet was eventually chewed up, with the last of the trucks ruined on the 21st. This made the collection supplies nearly impossible, as the garrison was forced to gather the daily loads of upwards of one hundred tons by hand.[73]

When the French abandoned Huguette 6 on the 18th, Giáp turned his attention to Huguette 1, and at 0100 on the 22d, his forces overran the position. The loss of Huguette 1 and 6 reduced the camp and drop zone to less than two kilometers on either side. To make matters worse, a Viêtminh soldier captured on the 20th related the recent arrival of Chinese antiaircraft advisors in the valley. The effect of these AAA experts was soon felt, as one veteran pilot considered the flak "as dense as anything Allied planes encountered over the German Ruhr toward the end of World War II."[74] The shrinking DZ and increasingly accurate flak threatened to completely sever Diên Biên Phu's only link with the outside world.[75]

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[72] Davidson, p. 258.

[73] Fall, *Hell*, p. 268.

[74] Leary, *Perilous Missions*, p. 190.

[75] Several sources state that the 37mm AAA was radar-controlled. The USAF histories speculate this possibility, as some C-119 crews were fired upon while flying above a cloud layer, with the rounds

De Castries understood the potential impact the loss the Huguettes had on his chances for logistical survival, but Langlais and Bigeard were pessimistic about the odds of a successful counterattack. De Castries insisted on the attack, ordering Huguette be retaken before 1600 that day. Langlais handed the mission over to Bigeard, who devised the plan, but left its leadership and execution to the commander of the 2 BEP, Major Liesenfelt: the counterattack was a complete failure. The assault companies were quickly pinned down, as Bigeard was forced to regain control and pull the pummeled units back within the French lines. The French lost 150 men, and Liesenfelt was relieved of command.

The accuracy of the AAA gunners continued to improve. On 24 April, CAT suffered its first casualty, as pilot Paul Holden was hurt by a 37mm shell that blew up inside his cockpit, destroying the top part of the flight deck, and severely injuring his arm. Copilot Wallace Buford finished the drop and returned the plane safely to Cat Bi. Holden was evacuated to Clark, where his arm was saved by USAF surgeons.

The flak was also particularly troublesome when trying to resupply Isabelle to the south. The isolated strongpoint had undergone the same enemy encroachment as the main camp, but on a smaller scale. With the southern airstrip in enemy territory by the end of March, pilots were forced to drop directly on the tiny garrison. With literally only two seconds to spare in judgement, this was the smallest of all drop zones.

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following them, unseen to the enemy, through a turn. On the other hand, Jane's *Armour and Artillery* lists the M1939 gun as "a clear weather-system only with no provisions for radar fire-control" (p. 718). It is possible that rudimentary fire-control radar was shipped from China to Vietnam, but any coupling of this system with the AAA pieces themselves would be haphazard at best. To be sure, the number of shot-down and battle damaged aircraft during the battle was significant, but this was more likely a by-product of sheer volume (as more guns were continually imported into the area) and increased proficiency by the Chinese-advised Viêtminh gun crews, rather than the introduction of radar technology.

By the end of April, the airlift effort was out of solutions to cope with the antiaircraft threat over Diên Biên Phu. Daytime drops from low altitude were suicidal, restricting crews to a minimum altitude over the fortress of 6,500 feet (above sea level; just over 5,000 feet above the ground). The higher altitude helped reduce the threat of smaller-caliber AAA, but provided little comfort as defense against the 37mm cannons, capable of downing a plane at 10,000 feet. The higher altitude also had an exponential effect on drop inaccuracy, even with the use of the powder-train delay mechanism. Thus, daytime drops were safest when accompanied by fighter support, as crews could take advantage of the fighters' suppressive effect on the AAA and "cheat" by descending to lower altitudes; but fighter escort was a rare luxury for the airlifters. In the absence of close-air support, the CAT pilots, who dropped primarily during the day, responded to the shrinking DZ problem with extraordinary measures. Arriving over the drop zone at 10,000 feet, the pilots performed a high-speed spiraling descent, leveling off less than a hundred feet above the ground, and unloading their cargo. Following the drop, the aircrews repeated the maneuver in reverse, climbing as fast as possible to escape the threat of the flak

Nighttime missions, on the other hand, were typically flown at lower altitudes, dropping even as low as the prescribed no-threat altitude. The antiaircraft fire was visually sighted, and the FAF pilots in both the C-47 and C-119 preferred to fly their missions under the cover of darkness, minimizing the threat while dropping their loads with much greater precision—a precision that was a premium with an ever-shrinking drop zone. With the loss of most of Dominique, northern Éliane, and western Huguette,

the French position was now a small fraction of its original size. Both sides now paused from 25 to 30 April to prepare for the looming crescendo.[76]

Phase Three: 1 to 7 May

Giáp launched the final stage of his siege on the evening of 1 May 1954. By 0200 the next morning, Éliane 1 and Dominique 3 had fallen, while Éliane 2 was under heavy attack. To the west, Viêtminh overran the position after an hour of shelling. The heavy rains of the coming monsoon turned the battlefield to a quagmire of mud, ruining Diên Biên Phu's fortifications and trenches. Despite the fact that the French were caught in a vise, they would not yield. The lull at the end of April had allowed them to amass a reasonable stockpile, including three days of food and 14,000 rounds of 105mm howitzer ammunition, as a means to help stave off the inevitable assault.[77]

Later that afternoon, two C-119s dropped their complete loads into enemy hands, with other Packets dropping half of their supplies into irretrievable locations. Later that day, the situation worsened for Nicot's airlift effort, as the French civilian pilots threatened to stop flying, then made good on their threat the following day.

It rained heavily on 3 May, drowning the French and Viêtminh trenches alike. At 0135, elements of the 1 BPC begin dropping onto the fortress; supply drops followed once the paratroopers assembled, delivering only fifty-three tons out of a minimum daily requirement of one hundred tons. The French civilian pilot walkout was being felt, but

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[76] Erik Shilling, *Destiny: A Flying Tiger's Rendezvous with Fate* (private publication); Ernie Cedergren, Jr., "I Flew at Dien Bien Phu," *Flying* 56 (February 1955): 26-28.

[77] They also had accumulated 275 rounds of 155mm ammunition and 5,000 rounds of 120mm mortar ammunition; Bernard Fall is quick to point out, however, that during the thirty-six hours of fighting from 13 ton 14 March, French artillery had expended 14,300 rounds, 300 rounds more than was on hand on 1 May (Fall, *Hell*, p. 350).

the poor weather contributed as well, forcing eight Packets to abort their missions in Haiphong.[78] Nicot attempted to explain to de Castries and Langlais the hazards his pilots faced by saying, "the pilots are subjected to automatic weapons fire coming from all directions, and bursts of tracer bullets converge on the pilots who are blinded by Viet-Minh illuminating shells, searchlights, and Bangalore torpedoes...." No sympathy would be granted, however, as de Castries replied, "the Air Force talks to me about the risks encountered by the air crews, while every man here faces infinitely larger risks...."[79]

On 5 May, with the Viêtminh getting ever closer, de Castries' command post sent another jab at the airlift effort, stating candidly, "C-119 air drops [were] particularly bad in spite of the almost total absence of antiaircraft fire."[80] Despite—or because of—the barbs, 196 tons were dropped on Diên Biên Phu on the following day, undoubtedly helped by the return of the French civilian pilots. This hallmark day would soon be soured for CAT.

On 6 May, several CAT pilots volunteered for daytime low-level missions to deliver badly needed artillery pieces to Isabelle.[81] One Packet, piloted by Arthur Wilson, was hit in the empenage but was able to limp home. Another, flown by the legendary aviator James "Earthquake McGoon" McGovern, was not so fortunate.

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[78] The C-47s that delivered the 1 BPC and the daily supplies most likely had better weather conditions from their airfields around Hanoi, as opposed to the poor weather around the C-119 bases in coastal Haiphong.

[79] Fall, *Hell*, pp. 359-65.

[80] Ibid., p. 370.

[81] Though still tremendously dangerous, there was little 37mm A'AA near Isabelle, making low-level flight more amenable to the aircrews.

McGovern was a man of considerable girth, and was one of the best-loved pilots among his peers. A fighter pilot in World War II, McGovern was well known for his fun-loving demeanor, but was also regarded as an excellent aviator. Flying his 46th mission to Diên Biên Phu, McGovern arrived overhead the valley, and began to make his spiraling descent on Isabelle. As the aircraft penetrated the wall of flak, a metal shard struck the left engine, forcing its shutdown, with more rounds tearing large pieces out of the tail section. Unable to maintain level flight, McGovern restarted the damaged engine, but the aircraft continued to loose altitude with a barely-controllable left yaw. Fellow pilot Steve Kusak, who watched McGovern's struggle, suggested that McGovern bail out in the hope of being picked-up by French rescue helicopters. McGovern refused, electing to stay with his airplane. The crippled plane continued to descend, as Kusak, over the radio, helped McGovern navigate his airplane down a narrow river valley to attempt a crash-landing. Out of altitude over the river-bed, McGovern's left wing struck the ground, flipping the aircraft over twice before exploding. Amazingly, the two French kickers survived. McGovern and his copilot, Wallace Buford, were killed instantly.[82] The death of McGovern and Buford shook the other CAT pilots, with talk of yet another stand-down—but the threat of a CAT "strike" at this critical juncture was to be a moot point.

At 1900 on the 6th, Giáp committed his best units against Éliane 2, the scene of some of the battle's fiercest fighting. Starting with the obligatory artillery barrage, the

[82] Leary, *Perilous Missions*, p. 190-91. It is doubtful that McGovern could have parachuted from his crippled C-119; USAF Colonel Maurice Casey, McGovern's instructor in the Packet during the summer of 1953, stated that the CAT pilot refused to wear a parachute because of its discomfort. Given his large stature, there simply wasn't enough room.

French were treated to the introduction of a new weapon to the battlefield—the six-tube Soviet-made Katyushu rocket launcher. The French responded to the assault with a time-on-target artillery barrage, whereby guns from all around the garrison were trained and fired so that the individual rounds struck simultaneously. The French tactic was devastatingly effective and the assault was stopped, leaving several hundred Viêtminh dead.

At 2300, Giáp prepared for yet another assault on Éliane 2 by having a 3,000 pound TNT charge exploded under the French position. For several weeks, Viêtminh miners had worked to tunnel under the French stronghold, and with the detonation of the charge, Éliane 2 was wiped off the battlefield. Only pockets of French resistance remained when the Viêtminh assaulted the strongpoint.[83]

On the morning of 7 May, Viêtminh forces pressed the attack on Éliane and Claudine, as white flags began to appear around the fortress. At 1500, Giáp ordered an all-out assault on the center of the French position, and Communist troops reached de Castries in his command post at 1730. The battle was over. After fifty-six days of fighting, the French had lost not just 7,182 soldiers, but her Indochinese Empire as well.

[83] Davidson, p. 262.

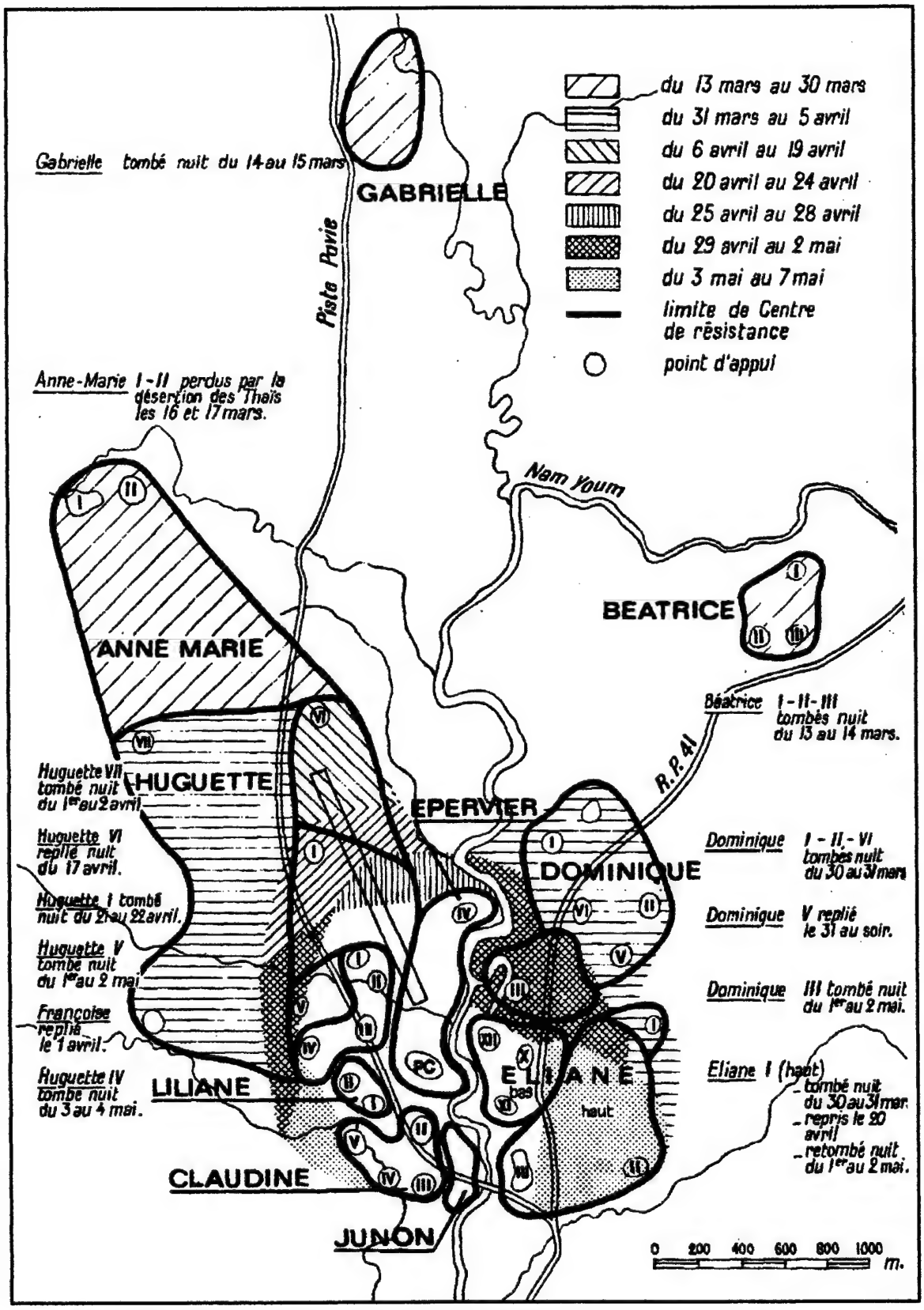

Fig. 3.5. Central position strongpoints (from Roy, *La Bataille de Diên Biên Phu*, p.368)

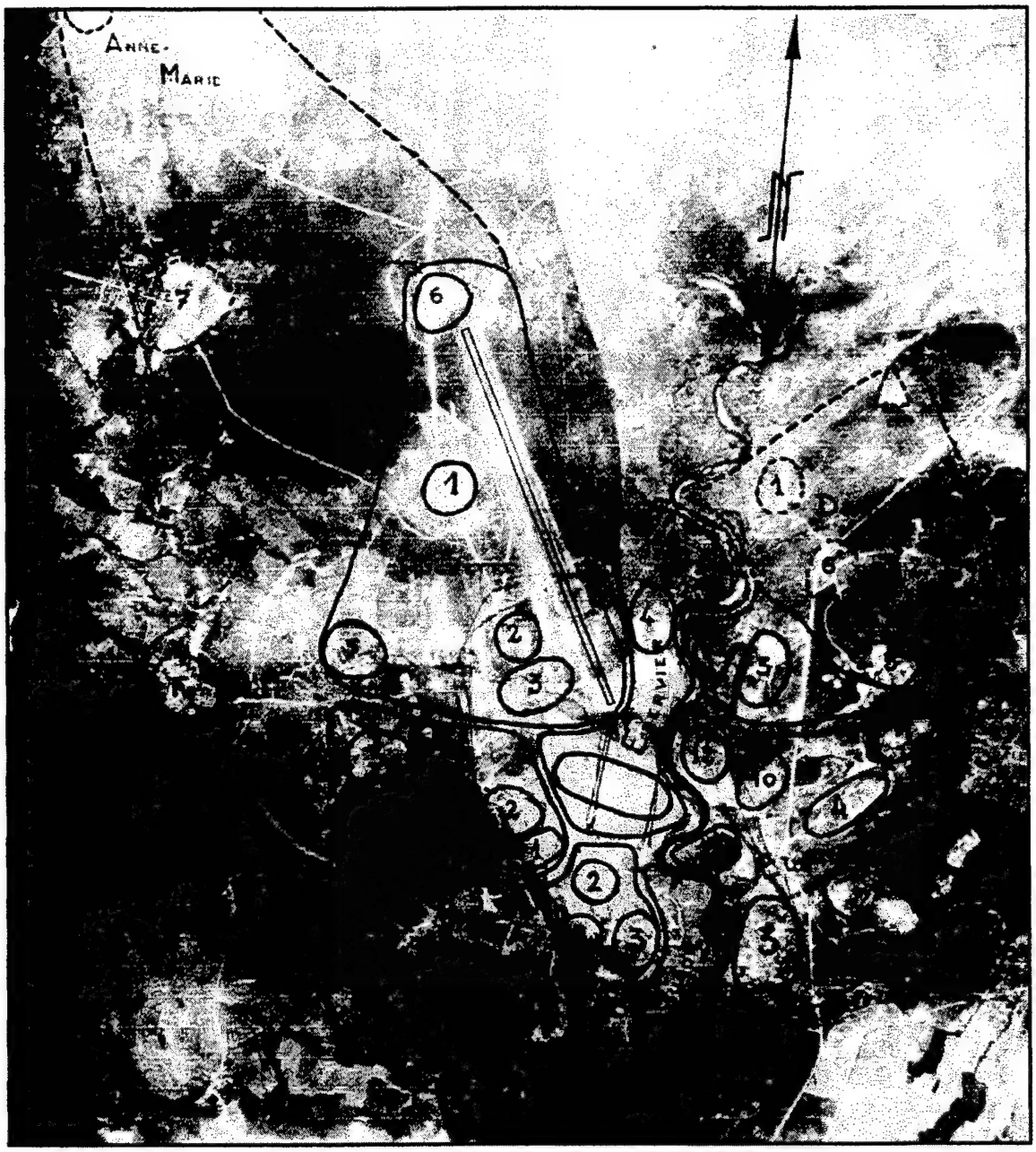

Fig. 3.6. Aerial photograph of the main position at Diên Biên Phu used by airdrop crews. The dashed lines denote formerly held positions, so this picture was marked some time between 10 April (after Éliane 1 was retaken) and before 17 April (when Huguette 6 fell). Note the drop zone pencil marks circling H2, H3, and the southern end of the runway, as well as the straight lines drawn through the southern part of Epervier. For scale, the highlighted runway is 1150 meters in length (from Bertin, *Packet Sur Diên Biên Phu*, p. 127).

CHAPTER 4

Analysis and Conclusion

"Even if they manage to keep shooting, they will be unable to supply their pieces with enough ammunition to do us any real harm."
Colonel Charles Piroth[1]

When the guns fell silent on 7 May, Diên Biên Phu resembled a muddy moonscape, pockmarked with the damage of over 100,000 Viêtminh artillery rounds. Over 10,000 air sorties had been flown in support of the garrison during the previous six months, with two-thirds of them transport missions. Airdrop, the lifeline of the French force from 13 March to 7 May, had delivered between 6,400 and 6,900 tons of equipment, food, and ammunition, flown by nearly thirty C-119s and three times as many C-47s. The defeated garrison had been a multi-cultural melting pot, with metropolitan French, Algerians, Moroccans, T'ais, and Vietnamese. Similarly, the aerial effort had been a conglomeration of various services and nationalities: the aircrews had come from the French and US Air Forces, commercial airline companies, and a CIA-owned air transport business; the mechanics who repaired the planes were a mixture of French and US Air Force personnel; and the riggers who packed parachutes and prepared loads—to include napalm—had been a mixture of US and French Army personnel. This formidable air transport force had been pitted against tens of thousands of coolies and porters, as well as hundreds of Molotova trucks flowing from the Chinese border.

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[1] Fall, *Hell*, p. 101.

Diên Biên Phu's historical verdict thus points to the disparate nature of these opposing logistical machines as the reason for Viêtminh victory—but this orthodoxy is in need of refinement. To be sure, Giáp's supply effort was phenomenal, but a closer examination of the evidence shows that the issue was not so much Viêtminh *quantity*, as it was French—and American—*quality*. The nature of the Viêtminh army, a force of 50,000 at the start of the battle, necessitated a strong supply train. But with a military advantage going to the entrenched defender, even outnumbered five to one, the French could probably have held had the airdrops reached them instead of their enemy—an enemy that was most likely on the verge of exhausting his ammunition had he not been supplied by French airlift.[2]

Artillery and the Key to Battle

The most destructive Viêtminh weapon at Diên Biên Phu was the 105mm howitzer. This artillery piece nearly doubled the capability of the 75mm howitzer, with superior range, burst area, and fragmentation radius.[3] Not only were the French surprised by the manner in which these guns were employed (with the use of direct versus indirect fire), but they also were surprised by their very presence on the battlefield. The French artillery commander, Colonel Charles Piroth, was fond of reciting his own plan of enemy destruction to the bevy of high-ranking visitors in the months prior to the battle, as he would say, "Firstly, the Viet-Minh won't succeed in getting their artillery through to here.

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[2] My conclusion; see also Fall, *Hell*, pp. 411, 451, 458.

[3] The 105mm was better than its 75mm counterpart in terms of maximum range (12,205' compared to 9,610'), effective burst area (150' x 45' compared to 90' x 30'), and radius of large fragments (900' compared to 450'). See *Staff Officers' Field Manual, FM 101-10* (Washington, DC: Department of the Army, 1953), pp. 158, 160.

Secondly, if they do get here, we'll smash them. Thirdly, even if they manage to keep shooting, they will be unable to supply their pieces with enough ammunition to do us any real harm."[4] In hindsight, Piroth's first point was flat wrong; the Viêtminh did succeed in getting their heavy artillery to the area. The primitive system of coolies and porters had successfully negated the FAF's interdiction efforts and delivered an artillery complement comparable to that of any contemporary western army.

Piroth's second assertion turned out to be wrong as well; the Viêtminh had neutralized the French counter-battery fire by firing their weapons from concealed caves and dugouts. But what of his third assertion? Did the Viêtminh in fact have enough ammunition to do the French "real harm"? Nothing in Giáp's own testimony of the battle indicates that there was a shortfall of any sort; in fact, the only skeptical comment he makes concerning his force is the issue of "rightist and negative tendencies" on 13 April. But this was common with Giáp and the Viêtminh leadership, as they habitually sought to veil their weaknesses in the name of good operational security. Given these circumstances, the evidence to build a case for low supplies of Viêtminh 105mm artillery ammunition must be gathered more indirectly.

In his book, *Nous Étions a Dien-Bien-Phu*, Jean Pouget lists the tally of Chinese equipment that had flowed into the valley from 14 December to 4 April, as detected by the *Deuxième Bureau.* Among the thousands of tons of food and weapons were 15,000

[4] Piroth was perhaps the most tragic figure of Diên Biên Phu. The one-armed colonel was full of bravado in front of those he wished to impress, but in private, he expressed concern over the potential weakness of his artillery force. When the first Viêtminh artillery barrage was launched on 13 March, he was so shocked at his underestimation of the Viêtminh capability that he withdrew to his own bunker and committed suicide. Fall, *Hell*, p. 101, 155-157.

rounds of 105mm howitzer ammunition.[5] Pouget's figures were most likely acquired firsthand, as he was General Navarre's aide-de-camp until he jumped into Diên Biên Phu as a company commander with the 1 BPC on 4 May. We should note at this point that the French intelligence community consistently supplied Navarre with accurate information both before and during the battle. The French regularly and effectively used Viêtminh radio intercepts to launch small spoiling raids against saboteurs; the exploitation of Viêtminh intelligence became so prevalent that at one point, the Communists suspected spies among their own soldiers.[6] With these two facts in mind—Pouget's own closeness to the actual operational data, as well as the veracity of the *Deuxième Bureau's* information—the count of 15,000 rounds of 105mm howitzer ammunition delivered from 14 December to 4 April should be regarded as fairly accurate.

With this established as a baseline, we must next determine the Viêtminh expenditure of 105mm ammunition. According to French artillery experts at Diên Biên Phu, approximately 30,000 rounds of 105mm, as well as 100,000 rounds of smaller caliber, hit the garrison during the course of the battle. Other sources give slightly different figures for the *total* Viêtminh artillery expenditure, but this is to be expected given the sheer volume of ammunition fired at the French and the mayhem encountered during an artillery barrage. Nevertheless, it is doubtful that the French artillery experts

[5] The complete list included: 395 machine guns (of large caliber), 4,000 submachine guns, 4,000 rifles, 44,000 rounds of 37mm, 15,000 rounds of 105mm, 10,000 rounds of 75mm, 5 million cartridges, 4,000 meters^3 of fuel, and 4,300 tons of rice. Pouget, p. 380.

[6] See Douglas Porch's *The French Secret Services*, pp. 339-57.

confused the 105mm hits with shells of lesser caliber, given their noticeably larger explosions. All things considered, the count of 30,000 105mm artillery strikes should be regarded as fairly accurate.[7]

Using the output baseline of 30,000 rounds expended, we can hypothesize the levels of Viêtminh expenditure at particular points during the battle. We do not know how many shots hit the French on a given day, but we do know roughly the endurance of each Viêtminh artillery barrage, the approximate number of 105mm pieces firing, and the maximum firing rate of these weapons.[8] As such, the daily Viêtminh expenditure of 105mm ammunition presumably resembled Figure 4.1 (see below).

Two questions are raised by this rough survey of Viêtminh ammunition input and output: First, if Giáp received only 15,000 rounds from 14 December to 4 April, when did he exhaust this stockpile? Second, where did he get the additional 15,000 rounds, bringing his end-of-battle total to 30,000? Considering the first question, a plot of his stockpile versus expenditures shrinks to zero by the beginning of April (see Figure 4.2 below). This—if true, and it is surely close to the truth—proves one of two things: either he had more ammunition than French intelligence reported, or he used less than I have hypothesized—either way, there is compelling evidence, discussed in more detail later, to suggest the Viêtminh were critically low on ammunition in the early days of April.

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[7] Fall, *Hell*, p. 128. Fall elsewhere states that the Viêtminh fired a total of 103,000 rounds of 75mm or greater, whereas the French fired 93,000 rounds of a similar caliber (p. 451). Phillip Davidson, quoting a JCS study, states that the Viêtminh fired at least 93,000 rounds of artillery during the siege (p. 226).

[8] The maximum sustained rate of fire for this model howitzer was 100 rounds per hour. It is doubtful that the Viêtminh gun crews ever achieved this level of fire, however, as the guns were dispersed, making the supply of ammunition to each emplacement a difficult chore. Additionally, the simple lack of battle experience by the gun crews would have slowed their rate of fire.

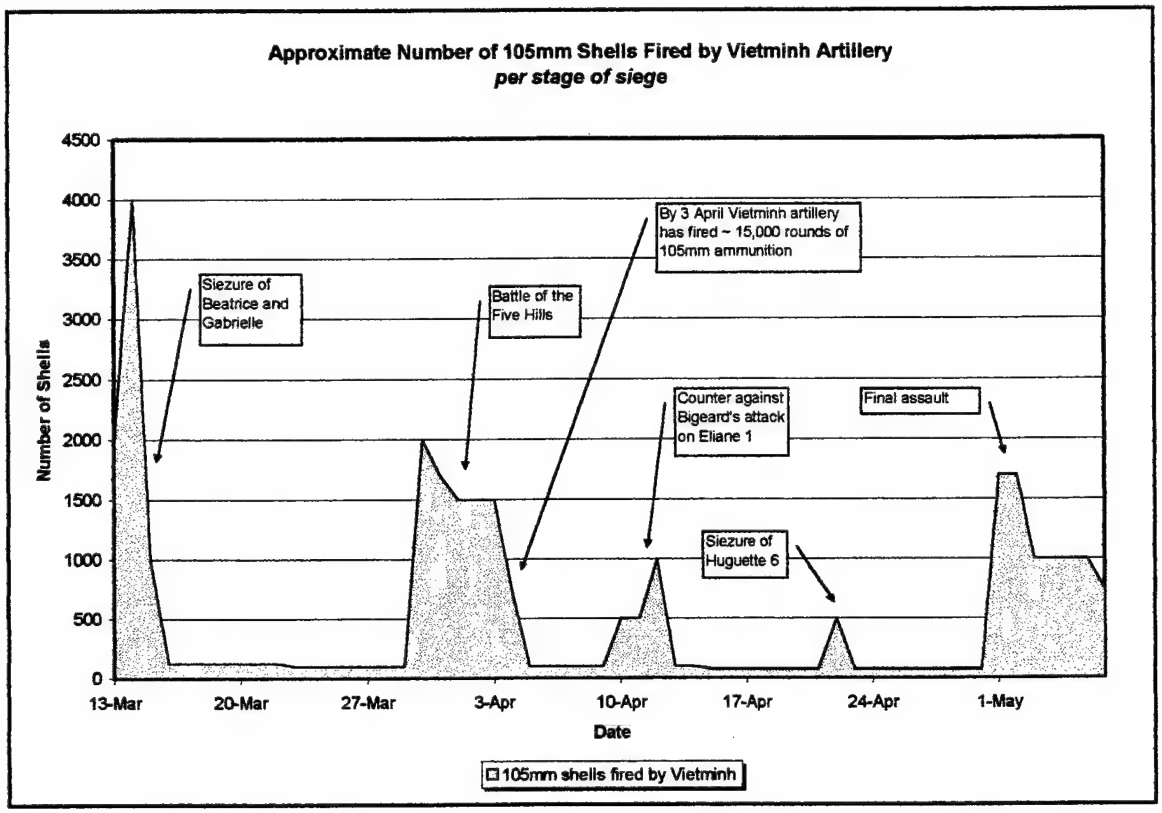

Fig. 4.1. Approximate number of 105mm howitzer shells fired by Vietminh artillery throughout the siege. The area under the graph represents the number of shells fired during particular portions of the battle, with a steady baseline maintained during the lull periods between the battle's three major phases. Assumptions: (1) a rate of fire of approximately sixty rounds per hour (much less than the maximum allowable rate of one hundred rounds per hour) during heavy barrages using twenty-four guns; (2) all major infantry attacks were preceded with artillery fire. Sources include: Davidson, pp. 234-39 (loss of Beatrice and Gabrielle), Davidson, pp. 247-60; Fall, *Hell*, p. 195-97; Roy, *The Battle of Dienbienphu*, p. 222 (Battle of the Five Hills), Davidson, p. 256 (French retake Éliane 1), Davidson, p. 258 (seizure of Huguette 6), and Davidson, pp. 260-62 (final assault).

Who supplied the additional 15,000 rounds? The Chinese undoubtedly continued to pour supplies into the battle as fast as possible, but even using 2 ½-ton trucks in place of coolies and porters, the resupply would have certainly been restricted to nighttime movement to avoid French air interdiction. Also, the early monsoonal rains would have made the several-hundred mile trip from China an arduous task. If Giáp had received 15,000 rounds of 105mm ammunition from 14 December to 4 April, that meant that his daily inflow during this period stood at an average of 138 rounds per day. Even if this delivery rate was more than doubled, assuming that a hypothetical 300 rounds of 105mm

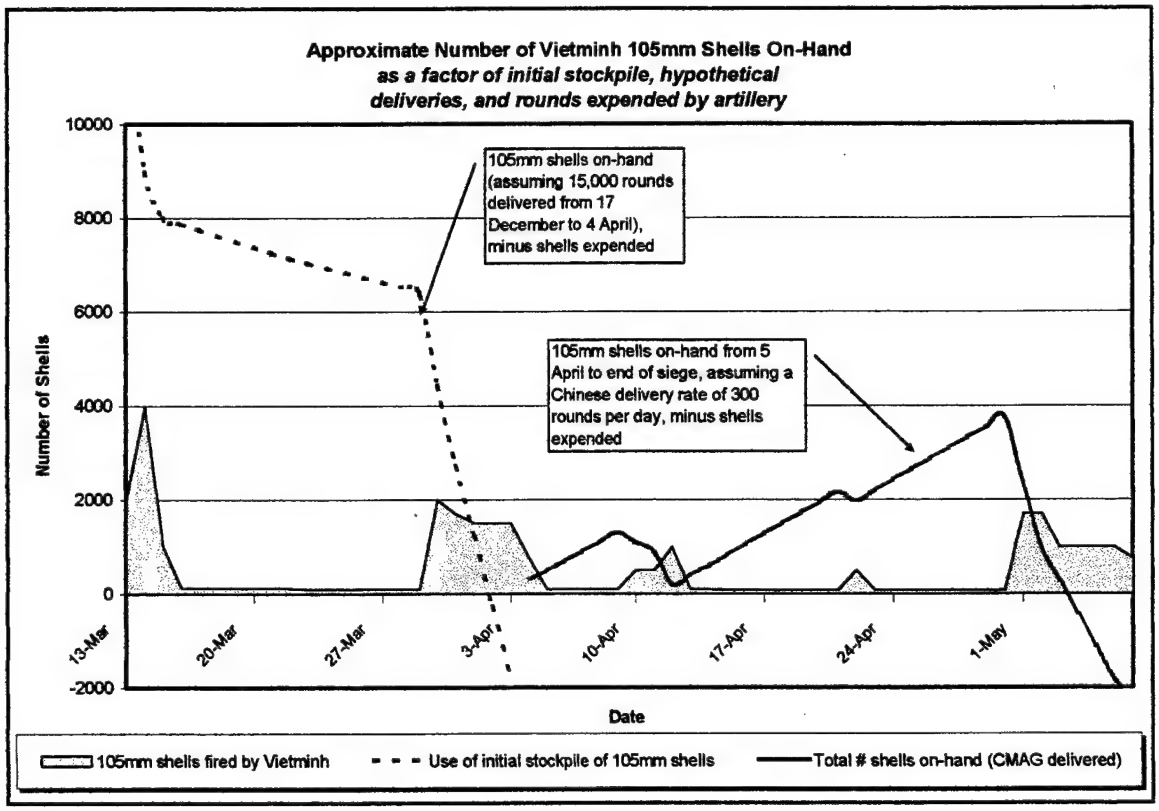

Fig. 4.2. Approximate number of Vietminh 105mm shells on-hand as a factor of initial stockpile, hypothetical deliveries, and rounds expended by artillery. Assumptions: (1) Vietminh 105mm howitzer expenditure rate, as depicted in Figure 4.1, (2) a total of 15,000 rounds of 105mm howitzer ammunition on-hand in the Vietminh stockpile on 13 March, the first day of the siege (see Pouget, p. 380), and (3) a Chinese-to-Vietminh delivery rate of 300 rounds per day, starting 4 April and continuing until the end of the siege (300 rounds delivered per day more than doubles the pre-siege delivery rate). Take note that the curve enters the negative range at the beginning of April, as well as halfway through the final assault.

ammunition arrived each day from 4 April through 7 May, he would still come up short of ammunition halfway through the final assault (reference Figure 4.2). With this in mind, it is likely that Giáp obtained much of his 105mm ammunition from a more immediately available source—namely from the aerial resupply misdrops.

The evidence—indirect but compelling—is that Giáp and his staff understood the capabilities and limitations of aerial resupply by airdrop better then the French. Even before the inital assault on 13 March, he had ordered guerrilla attacks on Gia Lam, Do Son, and Cat Bi, three of the key airlift bases in the Hanoi/Haiphong area. He also

understood the need for what the French called *Défence Contre Avion* (lit. Defensive Counter Air, or DCA), as the flow of antiaircraft weapons and the proficiency of the gun crews increased during the course of the battle. Without his own air force, Giáp sought to establish local air denial with AAA. And most importantly, Giáp knew that the remaining French drop zone at the beginning of April was Natasha, located on strongpoint Huguette. Low on 105mm ammunition—having nearly exhausted his stockpile—Giáp withdrew his troops holding half of Éliane 2 on 4 April, and focused on taking the Huguettes for the remainder of the month. In fact, were it not for the French counterattack on Éliane 1 on 10 April, it is doubtful that the Viêtminh would have engaged in any sizeable operations in the east. Giáp knew that the key to suffocating the French was to stop their influx of supplies; he also knew that in terms of supply, whatever the French lost, he gained.

As the Viêtminh began to gnaw away at the Huguettes in the west, the rate of misdropped supplies began to rise. The shrinking drop zone, along with Colonel Nicot's mandate to raise the drop altitude, had an obvious effect on drop accuracy. The initial use of the powder-train fuse delay mechanism yielded disastrous drop results, with approximately half of the cargo falling outside of the French perimeter; to the garrison's benefit, the misdrop average shrunk to 20 percent as the crews gained proficiency with the system.[9] A survey of the secondary-source literature provides sporadic daily airdrop totals (in some cases providing actual misdrop figures); using this data, we can (1) plot

[9] See Pouget, p. 364; Lovelace, *History of 315th Airlift Division,* (Documentation of Time Delay Fuse Detonator, Tab C). This figure (80% successful drop rate with fuse delays) was the drop information relayed to the officer in charge of airborne logistics in Hanoi by the command post at Diên Biên Phu during the siege.

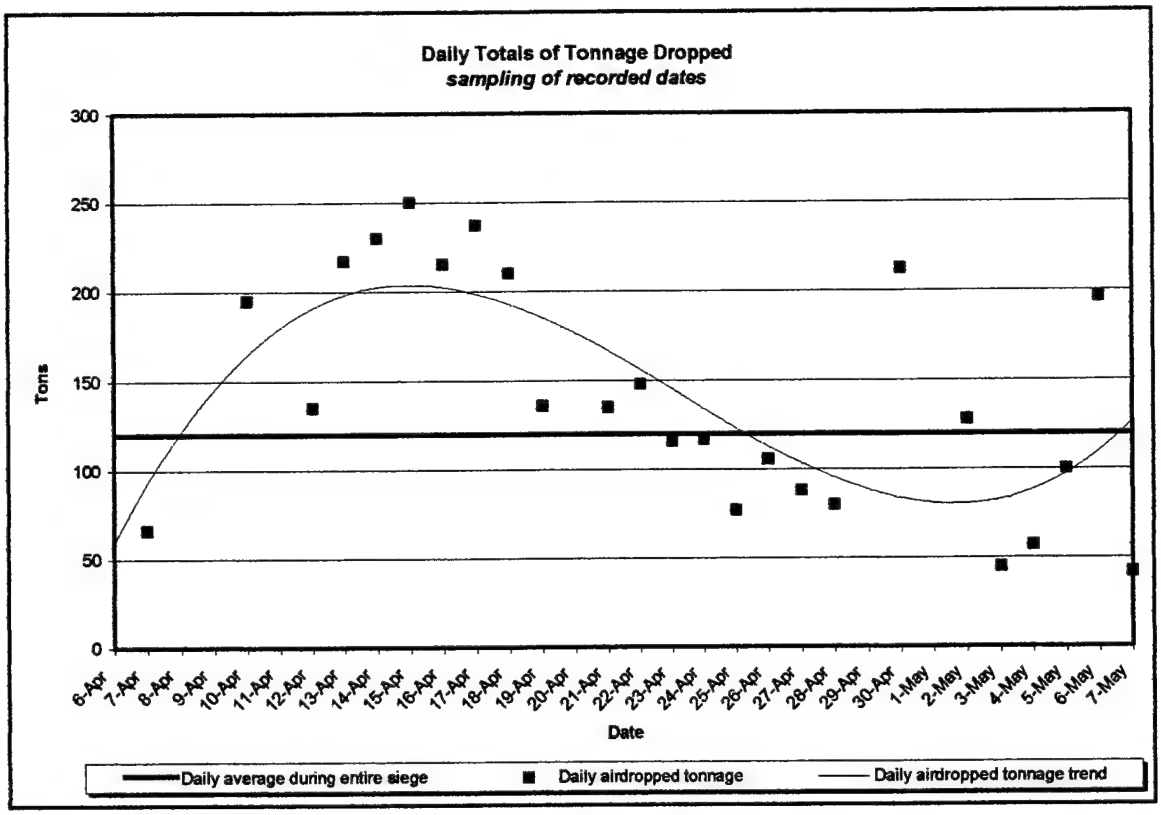

Fig. 4.3. Daily totals of tonnage dropped using data cited in secondary sources. Sources: 6/4 Fall, *Hell*, p. 226; 4/4, Pouget, 386; 8/4 Pouget, p.387; 10/4 Pouget, p. 391; 12/4 Pouget, p. 394; 134 Pouget, p. 395 and Fall, *Hell*, pp. 242, 47; 14/4 Fall, *Hell*, 247; 15/4 Fall, *Hell*, p. 255; 16/4 Fall, *Hell*, p. 256; 17/4 Pouget, p. 399; 18/4 Pouget, p. 400 (note: Fall, *Hell*, p. 264 claims that nothing fell during this evening, but Pouget's figures likely include daytime drops); 19/4 Pouget, p. 401; 21/4 Fall, *Hell*, p. 268; 22/4 Pouget, p. 403; 23/4 Pouget, p. 406; 24/4 Fall, *Hell*, p. 328; 25/4 Pouget, p. 409; 26/4 Pouget, p. 410; 27/4 Pouget, p. 412; 28/4 Pouget, p. 413; 30/4 Fall, *Hell*, p. 374; 2/5 Fall, *Hell*, p. 356; 3/5 Pouget, p. 420; 4/5 Pouget, pp. 420-21 and Fall, *Hell*, p. 367; 6/5 Leary, p. 190; 7/5 Pouget, p. 425.

how much cargo was dropped on a given day, (2) determine how much of that cargo was 105mm ammunition, and (3) surmise how much of this 105mm ammunition was *misdropped* to the Viêtminh. As the first in this series, Figure 4.3 shows the raw daily totals of airdropped cargo for the days mentioned in the works by Jean Pouget, Bernard Fall, and William Leary.

Taking this graph a step further, we can determine approximately how much of the cargo dropped was in fact *misdropped*; this can be done either by assuming that a

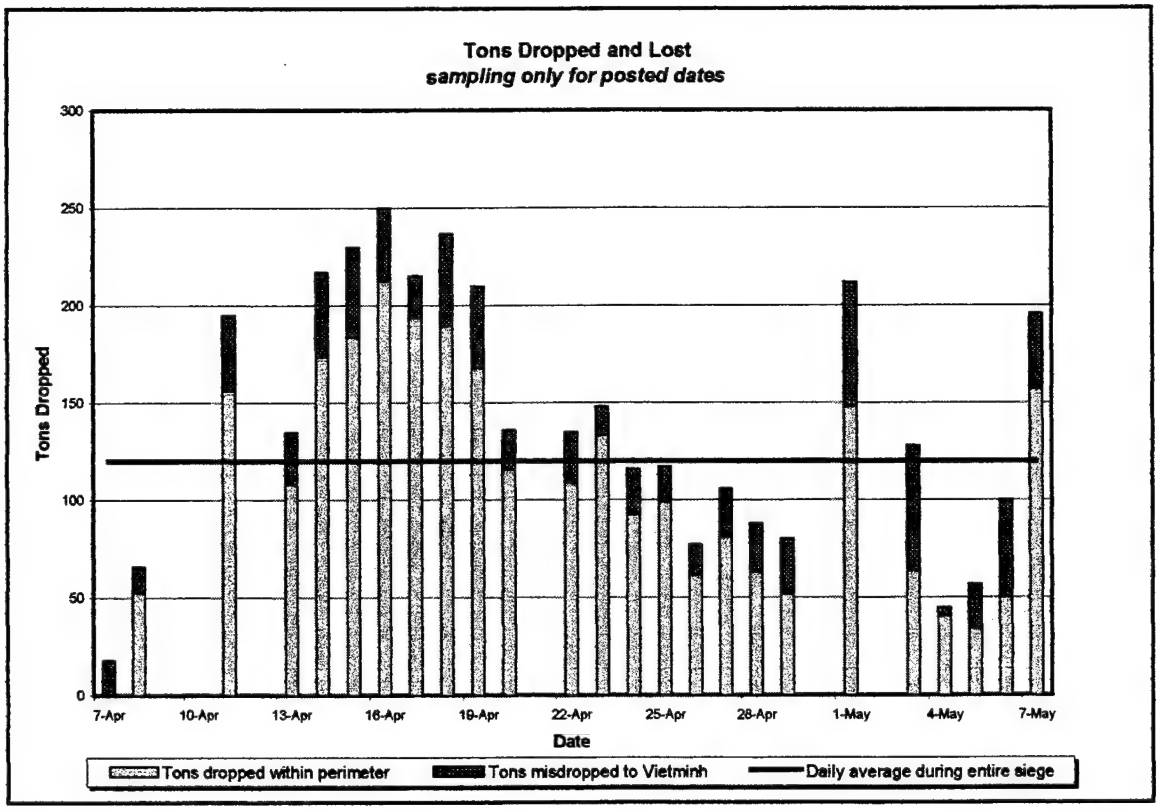

Fig. 4.4. Tons dropped vs. lost: sampling only for posted dates. Source: see Figure 4.2. Note: for days where no specific misdrop percentage is listed, 20 percent is used, based upon the figure annotated in the USAF historical records.

straight 20 percent was lost on a given day, or by using the actual misdrop data recorded in the secondary sources (see Figure 4.4).

The next task is to determine how much of each day's cargo consisted of ammunition. In the absence of actual figures listing the daily composition of airdrop loads, we can use the garrison's daily request of 170 tons of ammunition and 30 tons of food to deduce that the actual (daily) airdrops (by weight) were 15 percent food and 85 percent ammunition (this stands to reason, given the relative density of food versus ammunition).[10]

[10] Leary, *Perilous Missions*, p. 187.

Assuming that 85 percent of cargo dropped on a given day was ammunition, we next need to determine what percentage of a given day's load of ammunition consisted of 105mm rounds. Of all the weapons employed by the French, the 155mm howitzer, the 105mm howitzer, and the 120mm mortar used ammunition that was by far the heaviest in their arsenal; their respective weights were 95, 60, and 37 pounds for a single round. By the end of the battle, the French had fired 2,700 rounds of 155mm, 95,000 rounds of 105mm, and 38,000 rounds of 120mm; translating this number of rounds to *weight* shows that the French fired 128 tons of 155mm, 2,850 tons of 105mm, and 703 tons of 120mm. Thus, when considering only the heavy weaponry, we see that over 77 percent (by weight) of the French ammunition employed was composed of 105mm rounds.[11]

This figure of 77 percent is further validated by plotting what the French garrison had on-hand in their ammunition dumps on particular days, as well as what the garrison used during specific phases of the battle. In looking at these on-hand and expenditure figures, the assumption is that this was the general proportion of ammunition the French attempted to maintain based upon their order of battle—keeping in mind that what was either on-hand or used was first airdropped (see Figure 4.5 below).

Seeing that these plots of French 105mm expenditures and stores are consistent with the overall total of 77 percent, it is reasonable to assume that perhaps 10 percent of the *total* ammunition consisted of small-arms cartridges, hand grenades, smaller mortar rounds, and other miscellaneous weapons. As such, it is safe to assume that 65 percent—more than 10 percent less than the heavy weapons ratio—of all ammunition airdropped to the French was for 105mm howitzers.

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[11] The figures for the other two weapons were 19 percent for the 120mm mortar and 4 percent for

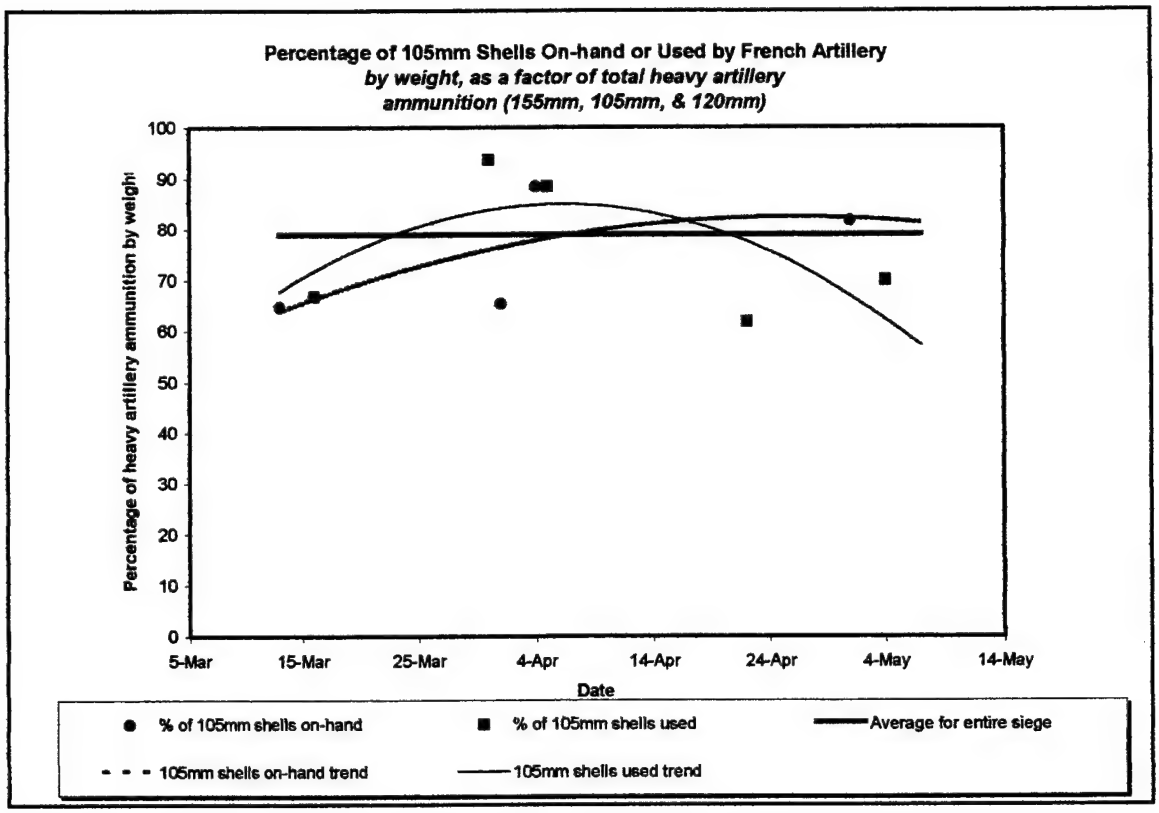

Fig. 4.5. Percentage of 105mm shells on-hand or used by French artillery (by weight), as a factor of total heavy artillery ammunition (155mm, 105mm, & 120mm). Sources: 13/3 Fall, *Hell*, p 473; 16/3 Fall, *Hell*, p. 474; 31/3 Fall, *Hell*, pp. 200-1; 1/4 Roy, *La Bataille*, p. 502; 4/4 Roy, *La Bataille*, pp. 506-7; 5/4 Fall, *Hell*, p. 226; 22/4 Fall, *Hell*, p. 277; 1/5 Fall, *Hell*, p. 350; 4/5 Fall, *Hell*, p. 367. Assumes a weight of 95 lbs. for each 155mm shell, 60 lbs. for each 105mm shell, and 37 lbs. for each 120mm mortar round. See *Staff Officers' Field Manual, FM 101-10* (Washington, DC: Department of the Army, 1953), pp. 238-3. Note: as the 120mm mortar was not listed in the *Staff Officer's Field Manual*, I have used the weight of the 4.2-inch US Army mortar, a round of similar diameter.

Applying these two percentages—85 percent of the dropped cargo as ammunition and 65 percent of the ammunition as 105mm—to the daily airdrops covered in Figure 4.3, we can determine the approximate number of misdropped 105mm howitzer rounds on these particular days during the siege (see Figure 4.6 below).

Before comparing the amount of misdropped shells to the total Viêtminh expenditures—remembering that Giáp hypothetically had used his 15,000 rounds by the beginning April—it is worthwhile to turn our attention to the actual square-kilometer area

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the 155mm howitzer.

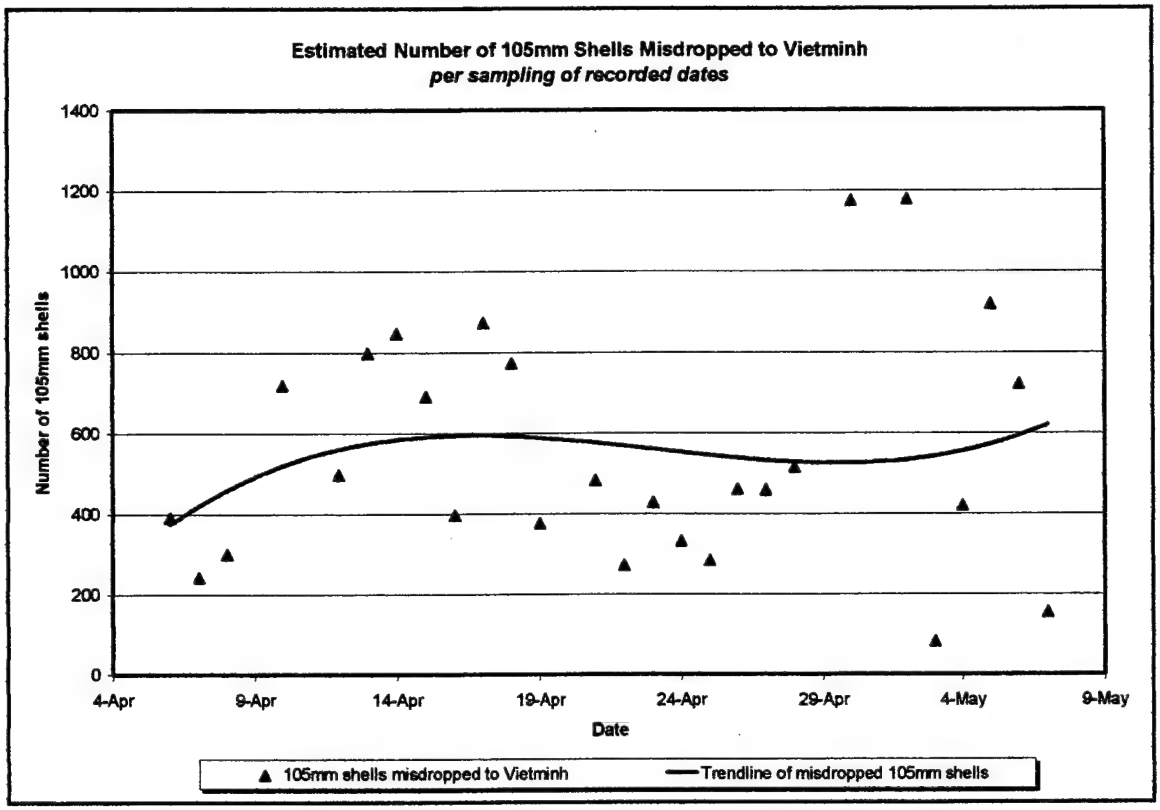

Fig. 4.6. Estimated Number of 105mm Shells Misdropped to the Vietminh per sampling of recorded dates. Sources: Figure 4.2; misdrop rate as recorded in the secondary sources (or 20 percent, in the absence of such figures). Assumes 55 percent (65 percent of 85 percent) of all misdrops were 105mm howitzer rounds (see discussion above and Figure 4.5).

held by the French garrison during particular stages in the battle. The gradual reduction of the fortress's area is depicted in Figure 4.7 (see below).

If we then superimpose the number of misdropped shells on Figure 4.7, a clear correlation is revealed: as the area of the garrison shrunk, particularly after the first week of April, the misdrops became numerous and steadily rose until the end of the battle. It can furthermore be assumed that the impact of the increasing AAA threat boosted the misdrop rate, as pilots were forced to either drop from a higher altitude or take evasive action against the flak threat, causing their loads to be off target (see Figure 4.8 below).

Finally, superimposing the number of misdropped 105mm shells on the graph depicting the number of shells hypothetically fired by the Viêtminh (Figure 4.1) shows a

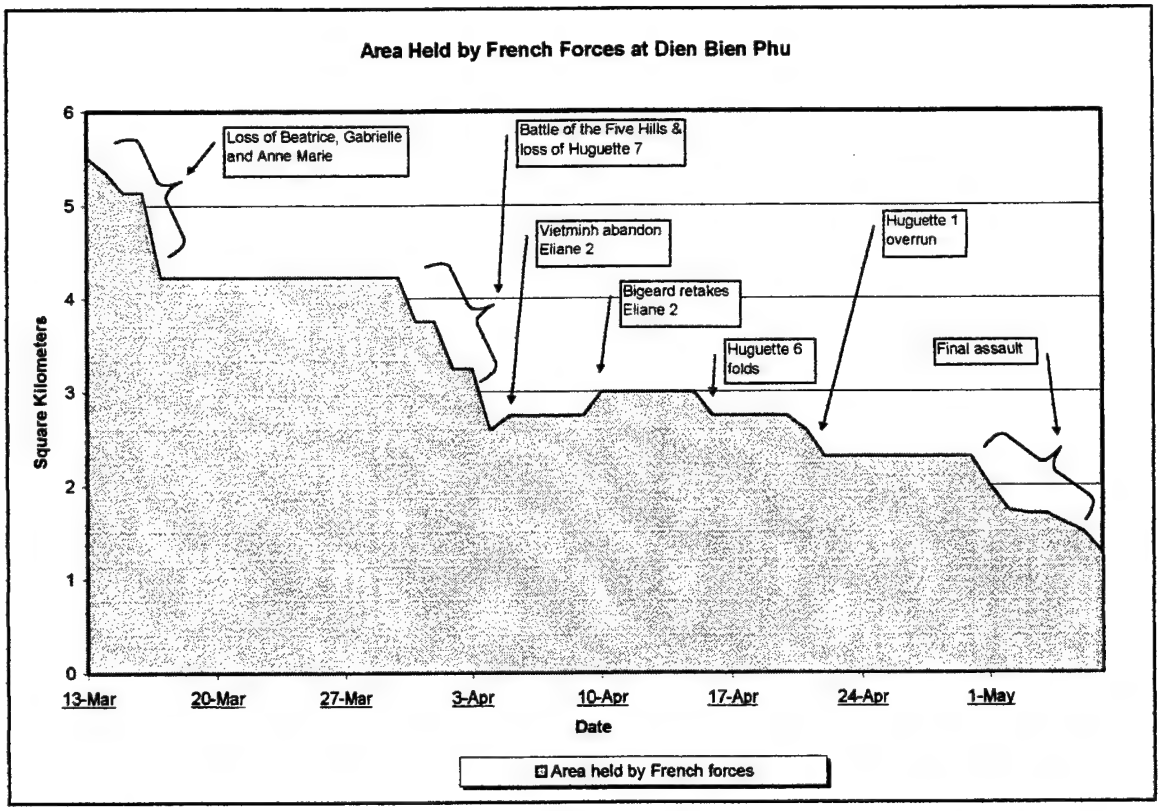

Fig. 4.7. Area Held by French forces at Dien Bien Phu. Source: the figures used in this chart were derived by superimposing small geometric shapes (squares, rectangles, right triangles and circles) on Jules Roy's scale area map (*La Bataille de Dien Bien Phu*, p. 368). The areas of these geometric shapes were then added to calculate to total area lost (and gained) during the battle. Note: there is undoubtedly a measure of inaccuracy with this crude methodology, but the important issue is not the exact area on a given date, but the shrinkage rate of the garrison's real estate.

noteworthy correlation: the lull between the end of the Battle of the Five Hills (5 April) and the beginning of the final assault (1 May) directly coincides with a preponderance of 105mm misdrops (see Figure 4.9 below); in fact, the only sizeable Viêtminh expenditures during this lull were as a result of the French offensive against Éliane 1 and the final seizure of Huguette 6.

Thus, if we assume that the *Deuxième Bureau* intelligence assessment of 4 April was correct (that Giáp had received 15,000 rounds of 105mm ammunition as of that date), and we assume that Giáp's 105mm artillery expenditure closely resembled that hypothesized in Figure 4.1, it is reasonable to assume that after 4 April, Giáp could not

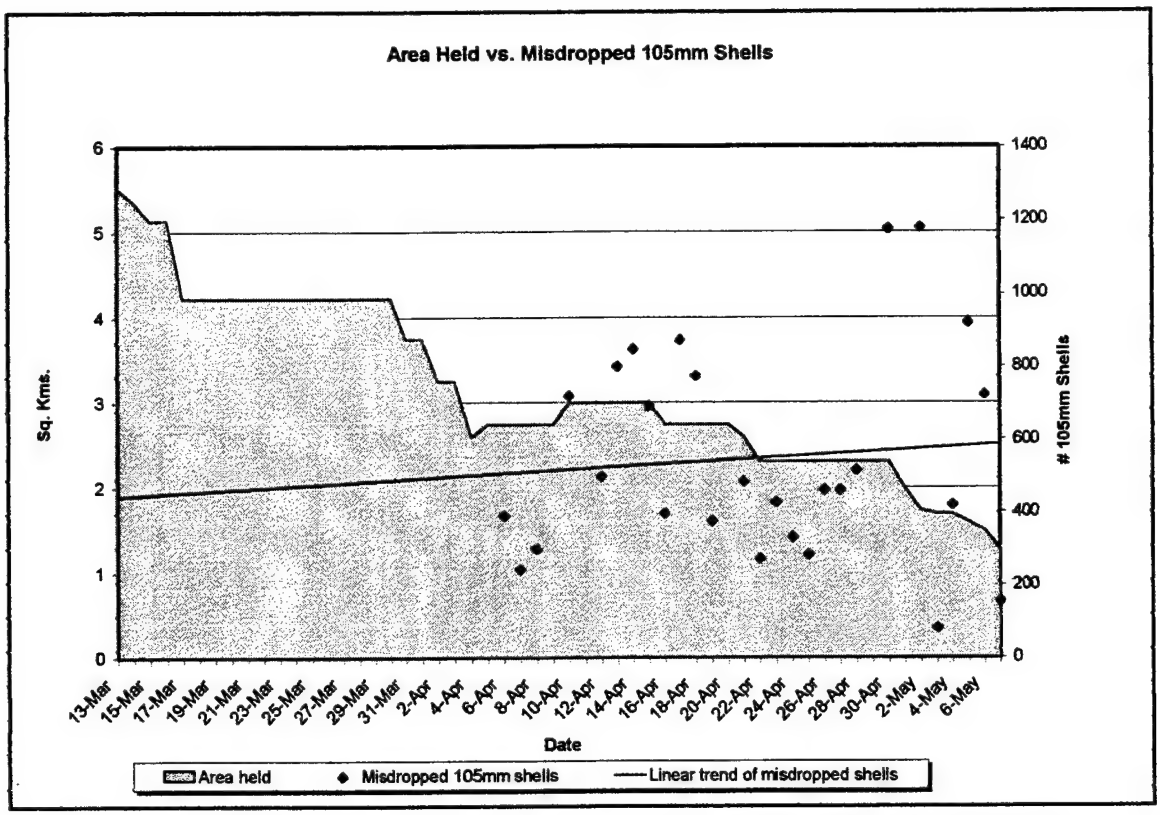

Fig. 4.8. Area held versus misdropped 105mm shells. Take note that the left y-axis deals with the reduction in the area of the garrison, whereas the right y-axis lists the approximate number of misdropped 105mm shells. Sources: Figures 4.6 and 4.7.

wage another significant assault until his artillery stores were substantially replenished. Another interesting note is the "shells fired" trend line plotted in Figure 4.9, as it completely flattens on 14 April. This is significant for two reasons: first, this is within a day of the nadir of Viêtminh morale, and second, this also is the very day the Viêtminh sent a message to the Chinese, asking them to "provide immediately an additional 720 tons of ammunition."[12] It would be unrealistic to assume that the Viêtminh supply system was so haphazard as to wait until their stores were empty before requesting more ammunition, but it is nonetheless curious that this low point in artillery expenditure

[12] Fall, *Hell*, p. 244.

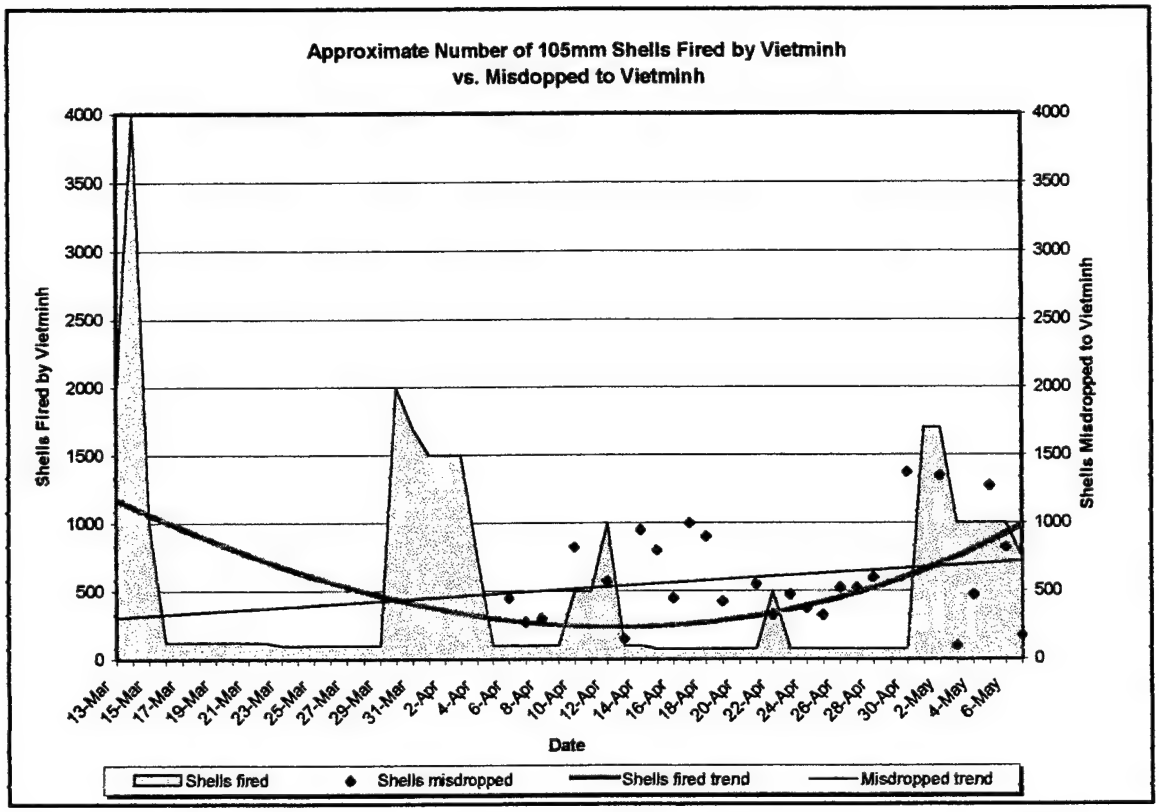

Fig. 4.9. Approximate number of 105mm shells fired by the Vietminh versus those misdropped to Vietminh. Source: figures 4.1 and 4.5. Again note that the left and right y-axis denote separate values.

corresponds to the exact date of the Viêtminh request. In fact, the Chinese concern over the Viêtminh artillery issue became so elevated during the first week of April, that even Mao Zedong became involved, sending a letter on 3 April to Peng Dehuai, Vice Chairman of the Chinese People's Revolutionary Military Committee. Mao's instructions were to make "immediate preparations of *sufficient ammunition* and engineering equipment" (emphasis in the original) for Viêtminh artillery needs.[13] Six days later, the Central Military Committee of the Chinese Communist party sent two telegrams to Wei Guoquing, the chief of the CMAG in Vietnam, "promising him that artillery ammunition supplies would be guaranteed to the Viêtminh so that they could use

[13] Zhai, p. 710.

as many shells as they wanted."[14] Although we do not know the exact level of Viêtminh 105mm stores following the Battle of the Five Hills, this haranguing between Beijing and Giáp's headquarters on the subject of artillery ammunition—to the point where the Chairman of the Chinese Communist Party became involved—is nonetheless suspicious.

The airdrop data depicted in the previous charts is not comprehensive. There are gaps in the record, and I have been dependant on information listed in secondary sources. But even applying this incomplete information conservatively, the airlift effort most likely dropped *at least* 14,800 rounds of 105mm ammunition to the Viêtminh—and this calculated with a Franco-friendly misdrop rate of only 20 percent. Even assuming a steady in-flow of Chinese ammunition, Giáp was still dependent upon the airlift to build his stockpile. His paucity of 105mm shells most likely motivated his withdrawal from Éliane 2 on 4 April; it probably also necessitated the use of the spectacular (yet questionably effective) Katyushu rockets at the end of the siege; and finally, it may have provided the needed impetus for his mining effort to demolish resistance on Éliane 2 on 6 May (in lieu of an overwhelming artillery barrage). Also, it is noteworthy that seven of the twenty-four French 105 howitzer pieces survived the battle and remained effective to the bitter end.[15] These weapons were poorly protected, and yet the survival of nearly a third of these guns reveals something of Viêtminh targeting; it appears that Viêtminh artillery supported infantry attacks and attacked airpower assets (both aircraft and

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[14] Jian, p. 103.

[15] At 1900 on 6 May, the Viêtminh 102[d] Regiment assaulted the summit of Éliane 2; the French artillery responded with a "TOT" ("time on target") barrage, where artillery units located at separate locations on the fortress fired their guns so that all of the rounds arrived on target at the same moment. When the barrage ended, the assault wave had vanished, with the bodies of several hundred Viêtminh scattered on the battlefield. See Davidson, p. 261.

runway), in lieu of engaging in a more shell-costly campaign against the French gun positions. All of these factors taken in concert—the cry for more Chinese ammunition, the 5 to 30 April offensive lull, the evacuation of eastern positions, the use of alternate weapons, and the targeting of Viêtminh artillery—all seem to indicate more than just a strategic pause to rest and refit. Rather, these factors point to an enemy on the verge of mental collapse by mid-April, who was similarly on the verge of physical collapse in terms of manpower and firepower. If the French had been able to keep their defensive perimeter large enough to prevent inadvertently resupplying the enemy, the battle's outcome might have been very different.

Conclusion

An analysis of the endless "might-have-beens" goes beyond the scope of this work, but two events during the course of the battle stand out as pivotal: First, the failure of the French to hold or retake Gabrielle on 14 March exposed their northern border, providing the first crack in the dike of aerial resupply. Second, the loss of Huguette 6 on 16 April proved even more costly, as it shrunk the drop zone to the point where resupply was actually counterproductive; from this point forward, the CAT, FAF, and commercial airlines supplied the Viêtminh with nearly the same effectiveness as their own forces. In the face of insurmountable odds, the French showed remarkable courage and battlefield skill: but a failure to fully appreciate and protect the precious weapon of airlift, both from the ground and from the air, yielded catastrophic results. As a result, the French loss at Diên Biên Phu was a failure, but not in the main as one might presume—rather, it was a failure in the margins.

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